



**CONSTRUCTION OF RESIDENTIAL QUARTERS FOR DOCTORS & DHARAMSHALA
FOR PATIENTS FOR TATA MEMORIAL CENTRE AT PAREL, MUMBAI**

**Request for Proposal – Volume II
(General Conditions of Contract)**

**Tender no. HLL/ID/15/22
AUGUST 2015**



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GENERAL CONDITIONS OF CONTRACT

1 General Provisions

1.1 Definitions

1.1.1 The Contract

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

"Contract" means the Contract Agreement, these Conditions, the Employer's Requirements, the Tender, Notice Inviting Tender, Instructions to Tenderers and further documents (if any), which are listed in the Contract Agreement.

"Contract Agreement" means the contract agreement referred to in Sub Clause 1.6, including any annexed memoranda.

"Employer's Requirements" means the document entitled employer's requirements, as included in the Contract, and any 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.

"Tender" means the EPC developer's signed offer for the Works and all other documents, which the EPC developer submitted therewith (other than these Conditions and the Employer's Requirements, if so submitted), as included in the Contract.

"Performance Guarantees" and **"Schedule of Payments"** mean the documents so named (if any), as included in the Contract.

1.1.2 Parties and Persons

"Party" means the Employer or the EPC Consultant or the EPC developer, as the context requires.

"Employer" means the person named as employer in the Contract Agreement and the legal successors in title to this person. ie. **Tata Memorial Centre**

"EPC developer" means the person(s) named as EPC developer in the Contract Agreement and the legal successors in title to this person(s).

"Engineer" means the person nominated by HLL Lifecare Limited, the EPC consultant to TMC, as the Engineer in charge, who acts on behalf of the Employer.

"EPC developer's Representative" means the person named by the EPC developer in the Contract or appointed from time to time by the EPC developer under Sub-Clause 4.3 (EPC developer's Representative), who acts on behalf of the EPC developer.

"Employer's Personnel" means the assistants referred to in Sub-Clause 3.2 (Other Employer's Personnel) and all other staff, labour and other employees of the Employer and of the Engineer; and any other personnel notified to the EPC developer, by the Employer or the Engineer, as Employer's Personnel.

"EPC developer's Personnel" means the EPC developer's Representative and all personnel whom the EPC developer utilises on Site, who may include the staff, labour and other employees of the EPC developer and of each Subcontractor; and any other personnel assisting the sub contractor in the execution of the

Works.

"Subcontractor" means any person named in the Contract as a Subcontractor, or any person appointed as a Subcontractor, for a part of the Works and the legal successors in title to each of these persons.

1.1.3 Dates, Tests, Periods and Completion

"Commencement Date" means the date notified under Sub-Clause 9.1 (Commencement of Works), unless otherwise defined in the Contract Agreement.

"Time for Completion" means the time for completing the Works or a Section (as the case may be) under Sub-Clause 9.2 (Time for Completion), as stated in the Special Conditions of Contract (with any extension under Sub-Clause 9.4 (Extension of Time for Completion), calculated from the Commencement Date.

"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 10 (Tests on Completion) before the Works or a Section (as the case may be) are taken over by the Employer

"Certificate of Virtual Completion" means a certificate issued by the EPC Consultant on behalf of TMC to the EPC developer after fulfillment of all of the following by the EPC developer.

- a. Submitting as-built drawings, O&M Manuals, catalogues, brochures, data-sheets, spares called for in the Contract and everything else necessary for the proper use and maintenance for the works complete with all systems and services.
- b. Submitting an undertaking to finish any outstanding work during the defects liability period
- c. Handing over of all the works to the EPC consultant in commissioned state.

"Taking-Over Certificate" means a certificate issued to the EPC developer under Clause 11 (Employer's Taking Over) after taking over of all the works in commissioned state and issue of certificate of virtual completion. On successful completion of all the works, the EPC developer shall hand over the same to the EPC Consultant who will act on behalf of TMC.

"Tests after Completion" means the tests (if any), which are specified in the Contract, and which are carried out under Clause 13 (Tests after Completion) after the Works or a Section (as the case may be) are taken over by the EPC Consultant on behalf of Employer.

"Defects Liability Period" means the period for correcting defects in the Works or a Section (as the case may be) under Sub-Clause 12.1 (Completion of Outstanding Work and Remedying Defects), as stated in the Special Conditions of Contract (with any extension under Sub-Clause 12.3 (Extension of Defects Liability Period), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 11.1 (Taking Over of the Works and Sections). If no such period is stated in the Special Conditions of Contract, the period shall be six months.

"Performance Certificate" means the certificate issued under Sub Clause 12.9 (Performance Certificate).

- i) **"Day"** means a calendar day.
- ii) **"Month"** means a calendar month.
- iii) **"Year"** means 365 days

1.1.4 Money and Payments

"Contract Price" means the agreed amount stated in the Contract Agreement for the design, execution and

completion of the Works and the remedying of any defects, and includes adjustments (if any) in accordance with the Contract.

"Cost" means all expenditure reasonably incurred (or to be incurred) by the EPC developer, whether on or off the Site including overhead and similar charges, but does not include profit.

"Final Statement" means the statement defined in Sub-Clause 15.13 (Application for Final Payment).

"Local Currency" means the currency of the Country.

"Statement" means a statement submitted by the EPC developer as part of an application for payment under Clause 15 (Contract Price and Payment).

1.1.5 Works and Goods

"EPC developer's Equipment" means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, EPC developer's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

"Goods" means EPC developer's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

"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 EPC developer under the Contract.

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

- i) **"Works"** means the Permanent Works and Temporary Works, or either of them as appropriate.
- ii) **"Permanent Works"** means the permanent works to be planned, designed and executed as well as equipment (other than medical) to be procured, installed and commissioned, integrated testing and correction of defects (if any) and maintained in accordance with the Contract during the Defects Liability Period.
- iii) **"Temporary Works"** means all temporary and enabling Works of every kind required for the execution and completion of the Works and the remedying of any defects therein.

1.1.6 Other Definitions

"EPC developer's Documents" means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature supplied by the EPC developer and approved by the Engineer under the Contract; as described in Sub-Clause 5.2 (EPC developer's Documents).

"Employer's Equipment" means the apparatus, machinery and vehicles (if any) made available by the Employer or EPC Consultant for the use of the EPC developer 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.

"Force Majeure" is defined in Clause 20 (Force Majeure).

"Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority in India.

"Performance Security" means the security (or securities, if any) under Sub-Clause 4.2 (Performance Security).

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"Site" means the places where the Permanent Works are to be executed 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.

"Variation" means any change to the Employer's Requirements or the Works, which is instructed or approved as a variation under Clause 14 (Variations and Adjustments).

1.2 Interpretation

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- (d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

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

1.3 Communications

M/s HLL Lifecare Ltd is the EPC Consultant who will act on behalf of TMC. Hence all the correspondence/ communication of EPC Developer shall be with HLL only.

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, 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 Special Conditions of Contract; and
- (b) Delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract. However:
 - (i) if the recipient gives notice of another 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.

Approvals, certificates, and consents shall not be unreasonably withheld or delayed.

1.4 Law and Language

The Contract shall be governed by the laws for the time being in force in India.

The language for communications shall be English except specified in Special Conditions of 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:

- (i) The Contract Agreement
- (ii) The Letter of Acceptance.
- (iii) The Notice Inviting Tender
- (iv) Instructions to Tenderers
- (v) The Employer's Requirements,
- (vi) Special Conditions of Contract.

- (vii) General Conditions of Contract.
- (viii) The EPC developer's Proposal
- (ix) The Tender and any other documents forming part of the Contract.

1.6 Contract Agreement

The Contract shall come into full force and effect on the date of issue of the letter of acceptance. 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 EPC developer.

1.7 Assignment

The EPC developer shall not assign a right or benefit under the Contract without first obtaining Employer's prior written consent, otherwise than by:

- a. a charge in favour of the EPC developer's bankers of any money due or to become due under the Contract, or
- b. assignment to the EPC developer's insurers (in cases where the insurers have discharged the EPC developer's loss or liability) of the EPC developer's right to obtain relief against any other party liable.

1.8 Care and Supply of Documents

The Construction and/or Manufacture Documents shall be in the custody and care of the EPC developer during the Contract. Unless otherwise stated in Special Conditions of Contract, the EPC developer shall provide six copies for the use of the Engineer and their personnel.

The EPC developer shall keep on Site one complete set of the documents forming the Contract, the Construction and/or Manufacture Documents, Variations, other communications given or issued from time to time and the documents/samples. The Employer, the Engineer in charge and their personnel shall have the right to access these documents at all reasonable times.

If the EPC developer becomes aware of an error or defect of a technical nature in a document, which was prepared for use in executing the Works, the EPC developer shall promptly give notice to the Employer of such error or defect and follow the Engineer's Instructions to rectify the same at EPC developer's cost. The Engineer's decision in this regard shall be final and binding on the EPC developer.

1.9 Confidentiality

The EPC developer shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable Laws. The EPC developer shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer/EPC Consultant.

1.10 Employer's Use of EPC developer's Documents

The EPC developer shall be deemed to give to the Employer/ EPC Consultant a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the EPC developer's Documents, including making and using modifications of them. This license shall

- a. apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- b. entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the EPC developer's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- c. in the case of EPC developer'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 EPC developer.

The Employer/ EPC Consultant reserves the full right to use, copy or communicate the EPC developer's documents for any purpose he wants to, as long as it doesn't harm EPC developer's interests. The EPC developer shall make available all the documents which the Employer wants at any point of time without conditions. No claims shall be entertained by the Employer in this regard.

1.11 EPC developer's Use of Employer's Documents

The EPC developer shall not use the Employer's/ EPC Consultant documents without the consent of the Employer/ EPC Consultant. This use shall be restricted for the purpose of the Contract only and at the cost of the EPC developer.

1.12 Confidential Details

The EPC developer shall disclose any information including confidential information, which the Employer / EPC Consultant may reasonably require in order to verify the EPC developer's compliance with the Contract.

1.13 Compliance with Laws

The EPC developer shall conform in all aspects with:

- a. the provision of any enactment in India as applicable from time to time
- b. the regulations or bye-laws of any local body and utilities.
- c. the EPC developer shall be bound to give all notices required by statute, regulations or by-laws, as aforesaid and to pay all fees and bills payable in relation to the design, execution and completion of the Works and the remedying of any defects. The EPC developer will arrange necessary clearances and Approvals before the Work is taken up.

Ignorance of Rules, Regulations and Bylaws shall not constitute a basis for any claim at any stage of work.

1.14 Joint and Several Liability

If the EPC developer constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- a. these persons shall be deemed to be jointly and severally liable to the Employer/ EPC Consultant for the performance of the Contract;
- b. these persons shall notify the EPC Consultant of their leader who shall have authority to bind the EPC developer and each of these persons; and
- c. the EPC developer shall not alter its composition or legal status without the prior consent of the EPC Consultant.

2 The Employer

2.1 Right of Access to the Site

The Employer shall give the EPC developer right of access to, and possession of, all parts of the Site within the time (or times) stated in the Special Conditions of Contract. The right and possession may not be exclusive to the EPC developer. If, under the Contract, the Employer is required to give (to the EPC developer) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Employer's Requirements. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Special Conditions of Contract, the Employer shall give the EPC developer right of access to, and possession of, the Site with effect from the Commencement Date.

If there is any delay in the performance of the Contract due to a failure by the Employer to give any such right or possession within such time, the EPC developer shall give notice to the Engineer and shall be entitled subject to Sub-Clause 21.1 (EPC developer's Claims) to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 9.4 (Extension of Time for Completion).

No extra payment of whatsoever nature shall be made to the EPC developer in this regard.

However, if and to the extent that the Employer's failure was caused by any error or delay by the EPC developer, including an error in, or delay in the submission of, any of the EPC developer's Documents, the EPC developer shall not be entitled to such extension of time.

2.2 Permits, Licenses or Approvals

It shall be EPC developer's exclusive responsibility to get Approvals, permits or license required for the Contract. However, the EPC consultant may (where he is in a position to do so) provide reasonable assistance to EPC developer at the request and cost of the EPC developer in getting Permits, License or Approvals required during the Contract.

2.3 Employer's Personnel

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:

- a. co-operate with the EPC developer's efforts under Sub-Clause 4.5 (Co-operation) and
- b. take actions similar to those which the EPC developer is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.7 (Safety Procedures) and under Sub-Clause 4.17 (Protection of the Environment).

2.4 Employer's Claims

If the Employer or EPC Consultant on behalf of 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, he shall give notice and particulars to the EPC developer. However, notice is not required for payments due under Sub-Clause 4.18 (Electricity, Water and Gas), under Sub-Clause 4.19 (Employer's Equipment) or for other services requested by the EPC developer.

The notice shall be given as soon as practicable after the Employer/ EPC Consultant became aware of the event or circumstances giving rise to the claim. A notice relating to any 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 considers himself to be entitled in connection with the Contract. The EPC Consultant on behalf of the employer shall then determine (i) the amount (if any) which the Employer is entitled to be paid by the EPC developer, and/or (ii) the extension (if any) of the Defects Liability Period in accordance with Sub Clause 12.3 (Extension of Defects Liability Period) and convey the same to the EPC developer. Engineer's decision in this regard shall be final and binding on the EPC developer.

The EPC Consultant may deduct this amount from any moneys due, or to become due, to the EPC developer. The EPC Consultant shall only be entitled to set off against or make any deduction from an amount due to the EPC developer, or to otherwise claim against the EPC developer, in accordance with this Sub-Clause or with sub-paragraph (a) and/or (b) of Sub-Clause 15.9 (Interim Payments).

3 The Employer's Administration

3.1 The Engineer

The EPC Consultant may nominate or appoint from time to time an Engineer in charge to act on his behalf under the Contract. In this event, he shall give notice to the EPC developer of the name, address, duties and authority of the Engineer in charge. The Employer shall also be entitled to change the Engineer with intimation to the EPC developer.

The Engineer shall carry out the duties specified or implied in the Contract. If the Engineer is required to obtain the Approval of the Employer before exercising a specified authority, the requirement shall be stated in the Special Conditions of Contract. Any requisite Approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer. The Engineer shall have no authority to amend the Contract nor to relieve the EPC developer of any of its obligations of the Contract.

3.2 Other Employer's Personnel

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. The delegation or a revoke should be in writing. The assignment, delegation or revocation shall not take effect until the EPC developer has received a copy of it in writing.

3.3 Delegated Persons

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

- (a) unless otherwise stated in the delegated person's communication relating to such act, it shall not relieve the EPC developer from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances;
- (b) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials; and
- (c) if the EPC developer questions any determination or instruction of a delegated person, the EPC developer may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

3.4 Engineer's Instructions

The Engineer may issue to the EPC developer instructions, which shall be necessary for the EPC developer to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which it relates and the Sub Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, Clause 14 (Variations and Adjustments) shall apply. If the Engineer or a delegated assistant gives an oral instruction and

- (a) Receives a written communication of the instruction, from (or on behalf of) the EPC developer, within two working days after giving the instruction, and
- (b) Does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

4 The EPC developer

4.1 EPC developer's General Obligations

The EPC developer shall design, 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 EPC developer shall provide their Documents specified in the Contract, and all EPC developer'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 Requirements, design as well as procurement, testing, installation, commissioning etc. or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works.

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

The EPC developer shall, whenever required by the Engineer, submit details of the arrangements and methods which the EPC developer 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 EPC Consultant.

4.2 Performance Security

- (a) Within 30 days of issue of the Letter of Acceptance, the successful Tenderer shall furnish Performance Security in the form of a bank guarantee for an amount of ten per cent of the Contract Value. The approved form provided in the "Instructions to Tenderers documents shall be used for Bank Guarantee. The Bank Guarantee shall be valid upto 6 months beyond the "Defects Liability Period".
- (b) Failure of the successful Tenderer to furnish the required Performance Security shall be a ground for the annulment of the award of Contract and forfeiture of the Tender security.

If the terms of the Performance Security specify its expiry date, and the EPC developer has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the EPC developer shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

The EPC Consultant shall return the Performance Security to the EPC developer within 21 days after the EPC developer receives the Performance Certificate.

4.3 EPC developer's Representative

The EPC developer shall appoint their Representative with prior written approval from the EPC Consultant and shall give him all authority necessary to act on the EPC developer's behalf under the Contract.

The EPC developer shall not, without the prior consent of the Employer/ EPC Consultant, revoke the appointment of the EPC developer's Representative or appoint a replacement.

The EPC developer's Representative shall, on behalf of the EPC developer, receive instructions under Sub-Clause 3.4 (Engineer's Instructions).

The EPC developer'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 EPC Consultant has received prior notice signed by the EPC developer's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

4.4 Subcontractor

The EPC developer shall not subcontract the Works except for petty labour and material except with the prior approval of the Employer/ EPC Consultant.

4.5 Co-operation with others Persons at Site

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

- a. the Employer's Personnel,
- b. any other EPC developers employed by the Employer, and
- c. the personnel of any legally constituted public authorities and authorized by the Employer,

who may be employed in the execution on or near the Site of any work not included in the Contract.

Services for these personnel and other EPC developers may include the use of EPC developer's Equipment, Temporary Works or access arrangements, which are the responsibility of the EPC developer.

The EPC developer shall be responsible for his construction activities on the Site, and shall co-ordinate his own activities with those of other EPC developers employed by the Employer for other purposes.

If, under the Contract, the Employer is required to give to the EPC developer possession of any foundation, structure, plant or means of access in accordance with EPC developer's Documents, the EPC developer shall submit such requirements with the preliminary design and detailed design in accordance with the Employer's Requirements.

4.6 Setting Out

The EPC developer shall set out the Works in relation to original points, lines and levels of reference specified by the Engineer. The EPC developer shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

4.7 Safety Procedures (as provided in page no. 52)

The EPC developer shall:

- (a) comply with all applicable safety regulations,
- (b) take care for the safety of all persons entitled to be on the Site,
- (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 11 (Employer's Taking Over), and
- (e) 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.

4.8 Quality Assurance

The EPC developer shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Employer/ EPC Consultant shall be entitled to audit any aspect of the system.

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

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

4.9 Site Data

The EPC Consultant on behalf of Employer shall have made available to the EPC developer for his information, all relevant data in the Employer's possession on subsurface and hydrological conditions at the Site, including environmental aspects. The Employer/ EPC Consultant shall similarly make available to the EPC developer all such data, which come into the Employer's possession at any time.

The EPC developer shall be responsible for verifying and interpreting all such data. The Employer/ EPC Consultant shall have no responsibility for the accuracy, sufficiency or completeness of such data, except as stated in Sub-Clause 5.1 (General Design Responsibilities).

4.10 Sufficiency of the Contract Price

The EPC developer shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price.

Unless otherwise stated in the Contract, the Contract Price covers all obligations of the EPC developer under the Contract including service tax, other applicable taxes and duties and cost of construction of site office and all things necessary for the proper design, execution and completion of the Works and the remedying of any defects.

4.11 Unforeseeable Difficulties

Except as otherwise stated in the Contract:

- a. The EPC developer shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;
- b. By signing the Contract, the EPC developer accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and
- c. The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.

4.12 Rights of Way and Facilities

The Employer shall provide right of way within its premises to the EPC developer for the purpose of the Contract. The EPC developer shall bear all costs and charges for special and/or temporary rights of way, which he may require, including those for access to the Site. The EPC developer shall also obtain, at his risk and cost, any additional facilities outside the Site, which he may require for the purposes of the Works.

4.13 Avoidance of Interference

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

The EPC developer should specifically note the fact that the work is required to be carried out adjacent to a working institute and vaccine manufacturing facility. Care should be taken to not to affect the ongoing activities, or harm any person, individual or any part of the building through the EPC developer's Operations.

4.14 Access Route

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

Except as otherwise stated in these Conditions:

- (a) The EPC developer shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) The EPC developer 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/ EPC Consultant shall not be responsible for any claims which may arise from the use or otherwise of any access route,
- (d) The Employer 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 EPC developer, of access routes shall be borne by the EPC developer.

4.15 Transport of Goods

Unless otherwise stated in the Special Conditions of Contract:

- a. The EPC developer 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 EPC developer shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- c. The EPC developer 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 employer/ TMC will issue Form – 16 to EPC developer if required.

4.16 EPC developer's Equipment

The EPC developer shall be responsible for all EPC developer's Equipment. When brought on to the Site, EPC developer's Equipment shall be deemed to be exclusively intended for the execution of the Works and shall not be removed without the prior consent of the Engineer.

4.17 Protection of the Environment

The EPC developer 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. EPC developer shall consider the GRIHA aspects also.

The EPC developer shall ensure that emissions, surface discharges and effluent from the EPC developer's activities shall not exceed the values prescribed by applicable standards and laws in India.

4.18 Electricity, Water and Gas

The EPC developer shall be responsible for the provision of all power, water and other services he may require at his own cost. The EPC Consultant, where feasible may at his discretion assist the EPC developer in this respect.

4.19 Employer's Equipment

The Employer shall make the Employer's Equipment (if any) available for the use of the EPC developer for 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 till the same is handed over to the EPC developer, except that
- (b) the EPC developer shall be responsible for each item of Employer's Equipment whilst any of the EPC developer'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 in accordance with Sub-Clause 2.4 (Employer's Claims). The EPC developer shall pay these amounts to the Employer.

4.20 Progress Reports

Unless otherwise stated in the Special Conditions of Contract, monthly progress reports shall be prepared by the EPC developer and submitted to the EPC Consultant in six 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 EPC developer 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 design, EPC developer's Documents, procurement, manufacture, delivery to Site, construction, erection, testing, commissioning and trial operation;
- b. A detailed schedule indicating the actual progress of work against the approved construction schedule
- c. A detailed schedule indicating the planned activities during the succeeding month.
- d. A detailed cash flow statement (S-curve) indicating current and projected cash flows compared against the approved cash flow statement
- e. Photographs showing the status of manufacture and of progress on the Site;
- f. 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. EPC developer's inspections,
 - iii. tests, and
 - iv. shipment and arrival at the Site;
- g. The details described in Sub-Clause 7.10 (Records of EPC developer's Personnel and Equipment);
- h. Copies of quality assurance documents, test results and certificates of Materials
- i. List of Variations, notices given under Sub-Clause 2.4 (Employer's Claims) and notices given under Sub-Clause 21.1 (EPC developer's Claims);

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- j. Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;
- k. Future requirements from the Employer of any service, plant, foundation etc and
- l. 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.
- m. All statutory documents upto the previous month like receipts of PF, ESI, VAT, Service Tax and other statutory payments, Employee attendance register, payments made to sub-EPC developers, safety report, etc.
- n. Any important event occurred during the reporting period should be mentioned with photographs.
- o. Any other detail as mentioned by the Engineer from time to time.

4.21 Security of the Site

Unless otherwise stated in the Special Conditions of Contract:

- (a) The EPC developer shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the EPC developer's Personnel and the Employer's / EPC Consultant's Personnel; and to any other personnel notified to the EPC developer, by the Employer or the Engineer, as authorised personnel of the Employer's other EPC developers on the Site.

4.22 EPC developer's Operations on Site

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

During the execution of the Works, the EPC developer shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any EPC developer's Equipment or surplus materials. The EPC developer shall clear away and remove from the Site any wreckage, rubbish and Temporary Works, which are no longer, required. The EPC developer shall barricade the working area and also provide safety measures preventing any accidental fall in open ducts, shafts, roof edge, etc.

Upon the issue of the Taking-Over Certificate for the Works, the EPC developer shall clear away and remove all EPC developer's Equipment, surplus material, wreckage, rubbish and Temporary Works. The EPC developer shall leave the Site and the Works in a clean and safe condition. However, the EPC developer may retain on Site, during the Defects Liability Period, such Goods as are required for the EPC developer to fulfill obligations under the Contract.

4.23 Fossils, Discoveries and Items of Value

All fossils, coins, articles of value or antiquity, and 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 EPC developer shall take reasonable precautions to prevent EPC developer's Personnel or other persons from removing or damaging any of these findings.

The EPC developer shall, upon discovery of any such finding, promptly give notice to the Engineer who shall issue instructions for dealing with it. If the EPC developer suffers delay from complying with the instructions, the EPC developer shall give a further notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or likely to be delayed, under Sub-Clause 9.4 (Extension of Time for Completion). No extra payment shall be made to the EPC developer in this regard.

5 Design

5.1 General Design Obligations

The EPC developer shall be deemed to have scrutinized the Employer's Requirements (including design criteria and calculations, if any). The EPC developer shall be responsible for the design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Employer/ EPC Consultant shall not be responsible for any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information. Any data or information received by the EPC developer, from the Employer or otherwise, shall not relieve the EPC developer from his responsibility for the design and execution of the Works.

However, the Employer/ EPC Consultant shall be responsible for the correctness of the following portions of the Employer's Requirements and of the following data and information provided by (or on behalf of) the Employer:

- (a) Portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer,
- (b) Definitions of intended purposes of the Works or any parts thereof,

5.2 EPC developer's Documents

The EPC developer'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 5.7 (Operation and Maintenance Manuals). Unless otherwise stated in the Employer's Requirements, the EPC developer's Documents shall be written in the language for communications defined in Sub-Clause 1.4 (Law and Language).

The EPC developer shall prepare all EPC developer's Documents, and shall also prepare any other documents necessary to instruct, the EPC developer's Personnel and as instructed by the Engineer from time to time.

If the Employer's Requirements describe the EPC developer's Documents, which are to be submitted to the Engineer for review, 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 (ii) "EPC developer's Documents" exclude any documents which are not specified as being required to be submitted for review.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the EPC consultant receives a EPC developer's Document and the EPC developer's notice. This notice shall state that the EPC developer's Document is considered ready, both for review in accordance with this Sub-Clause and for use. The notice shall also state that the EPC developer'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 EPC developer that a EPC developer's Document fails (to the extent stated) to comply with the Contract. If a EPC developer's Document so fails to comply, it shall be rectified, resubmitted and reviewed in accordance with this Sub-Clause, at the EPC developer's cost.

For each part of the Works, and except to the extent that the Parties otherwise agree:

- (a) Execution of such part of the Works shall not commence prior to the expiry of the review periods for all the EPC developer's Documents which are relevant to its design and

- execution;
- (b) Execution of such part of the Works shall be in accordance with these EPC developer's Documents, as submitted for review; and
 - (c) If the EPC developer wishes to modify any design or document which has previously been submitted for review, the EPC developer shall immediately give notice to the Engineer. Thereafter, the EPC developer shall submit revised documents to the Engineer in accordance with the above procedure.

Any such agreement (under the preceding paragraph) or any review (under this Sub Clause or otherwise) shall not relieve the EPC developer from any obligation or responsibility.

5.3 EPC developer's Warranty of Design

- a. The EPC developer shall be fully responsible, for the suitability, adequacy, integrity, durability and practicality of the EPC developer's proposal.
- b. The EPC developer warrants that the EPC developer's Proposals meet the Employer's Requirements and is fit for the purpose thereof. Where there is any inadequacy, insufficiency, impracticality or unsuitability in or of the Employer's Requirements or any part thereof, the EPC developer's Proposal shall take into account, address or rectify such inadequacy, insufficiency, impracticality or unsuitability at EPC developer's own cost.
- c. The EPC developer shall indemnify the Employer against any damage, expense, liability, loss or claim, which the Employer might incur, sustain or be subject to arising from any breach of the EPC developer's design responsibility and/or warranty set out in this Clause as per
- d. The EPC developer further specifies and is deemed to have checked and accepted full responsibility for the EPC developer's Proposal and warrants absolutely that the same meets the Employer's Requirements:
 - i. Notwithstanding that such design may be or have been prepared, developed or issued by the Employer/ EPC Consultant, any of EPC developer's consultants, his sub EPC developers and/or his qualified personnel/persons or cause to be prepared, developed or issued by others.
 - ii. Notwithstanding any warranties, guaranties and/or indemnities that may be or may have been submitted by any other person.
 - iii. Notwithstanding that the same have been accepted by the Engineer

The EPC developer shall be fully responsible for the Plants, Materials, goods, workmanship, preparing, developing and coordinating all design Works to enable that part of the Works to be constructed and/or to be fully operational in accordance with the Contract's requirements and statutory norms.

5.4 Technical Standards and Regulations

The design, the EPC developer's Documents, the execution and the completed Works shall comply with the technical standards, building, construction and environmental Laws in force in India, Laws applicable to the product being produced from the Works, and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws. Where suitable Indian standards are not applicable, relevant international standards with the prior approval of the Engineer may be referred to.

5.5 Training

The EPC developer shall carry out the training of Employer's Personnel in the operation and maintenance of the Works to the extent specified in the Employer's Requirements or as desired by the Employer/ EPC Consultant. 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 11.1 (Taking Over of the Works and Sections) until this training has been completed.

Training shall be carried for the machines, systems installed and for the equipments procured and installed in the building. The minimum training period shall be as per the Employer's Requirement.

5.6 As-Built Documents

The EPC developer 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 shall be supplied to the Engineer prior to the commencement of the Tests on Completion.

In addition, the EPC developer shall supply to the EPC Consultant as-built drawings of the Works, showing all Works as executed, and submit them to the EPC Consultant for review under Sub-Clause 5.2 (EPC developer's Documents). The EPC developer shall obtain the consent of the Engineer as to their size, the referencing system, and other relevant details.

Prior to the issue of any Taking-Over Certificate, the EPC developer shall supply to the Engineer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 11.1 (Taking Over of the Works and Sections) until the EPC Consultant has received these documents.

5.7 Operation and Maintenance Manuals

Prior to commencement of the Tests on Completion, the EPC developer shall supply to the EPC Consultant provisional operation and maintenance manuals as specified in the Employer's Requirements and Special Conditions of Contract.

The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 11.1 (Taking Over of the Works and Sections) until the EPC Consultant has received final operation and maintenance manuals in such detail, and any other manuals specified in the Employer's Requirements for these purposes.

5.8 Design Error

The design/ drawings will be got proof checked from IIT by the EPC consultant. If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the EPC developer's Documents, they and the Works shall be corrected at the EPC developer's cost, notwithstanding any consent or approval under this Clause.

6 Equipments (Kitchen, Laundry, etc.)

The EPC developer shall procure, install and commission all required equipments in accordance with the Employer's Requirements. All the equipments shall be of the latest specifications and internationally accepted.

6.1 Approval of Specifications of Equipments by Technical Committee

Before the Equipments are procured and the orders are placed, the EPC developer shall finalise the detailed specifications of the equipments and get it approved from the technical committee of the Employer/ EPC Consultant. No change or deviation in the broad specifications provided in the Employer's requirement and detailed specifications approved by the technical committee shall be permitted.

6.2 Employer's Right to Vary the Specifications

The EPC developer shall submit his quotation at the time of tendering in accordance with the list of equipments and broad specifications provided in the Employer's Requirements.

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The Employer/ EPC Consultant reserves the right to change or modify the detailed specifications submitted by the EPC developer and order variations for the same. The detailed specifications shall be finalized only at the later stage based on the latest specifications available at the time of procurement and approval by the technical committee. The EPC developer shall be bound to comply with the same.

Any financial risk of providing detailed specifications at a later date and price variations due to the same rests with the EPC developer. The Contract price shall not be adjusted on account of this.

6.3 Demonstration

The EPC developer shall arrange a demonstration of the working of Equipment before the same is installed permanently at EPC developer's Cost.

6.4 Warranty for Equipments

The EPC developer shall provide OEM warranty for each equipment procured, installed and commissioned under the Contract. The minimum warranty period shall be 5 years. Wherever the manufacturers provide warranty period less than 5 years the EPC developer shall obtain extended warranty for the balance period.

6.5 Equipment Error and defect

The equipments procured shall be free of any error and any defects before the same is handed over to the Employer. It is EPC developer's responsibility to ensure that all the equipments comply with the above requirements. In case there is any error or defects in the equipment, it should be corrected or made good at EPC developer's Cost.

Where there is a faulty equipment, it should be replaced in a reasonable time and with the permission of the Employer/ EPC Consultant. The EPC developer shall bear all charges of whatsoever nature for such replacement or repair etc. The Employer shall make no payments to the EPC developer in this regard.

6.6 Maintenance of Equipments

(a) The EPC developer shall provide Annual Maintenance Contract (AMC) for the entire equipment for a period of 5 years after the defect liability period.

(b) The EPC developer shall be responsible for the maintenance of the equipments during the Defects Liability Period as specified in Special Conditions of Contract.

The EPC developer shall supply Operation and Maintenance Manuals of the Equipment along with the original bills, warranty cards etc to the Employer as mentioned in Employer's Requirements.

7 Staff and Labour

7.1 Engagement of Staff and Labour

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

The EPC developer shall utilise the local labour and material to the extent possible.

7.2 Rates of Wages and Conditions of Labour

The EPC developer 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 EPC developer 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 EPC developer.

7.3 Persons in the Service of Others

The EPC developer shall not recruit, or attempt to recruit; staff and labour from amongst the Employer's Personnel, Engineer and those retired Employees of the Employer at any stage in the Contract.

7.4 Labour laws

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

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

7.5 Working Hours

No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:

- (a) otherwise stated in the Contract,
- (b) with the prior approval from the Engineer, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the EPC developer shall immediately advise the EPC Consultant

7.6 Facilities for Staff and Labour

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

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

7.7 Health and Safety

The EPC developer shall at all times take all reasonable precautions to maintain the health and safety of the EPC developer's Personnel. In collaboration with local health authorities, the EPC developer 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 EPC developer's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The EPC developer 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 protective measures to prevent accidents. Throughout the execution of the Works, the EPC developer shall provide whatever is required by this person to exercise this responsibility and authority.

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

7.8 EPC developer's Superintendence

Throughout the design and execution of the Works, and as long thereafter as is necessary to fulfill the EPC developer's obligations, the EPC developer 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.

7.9 EPC developer's Personnel

The EPC developer's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the EPC developer to remove (or cause to be removed) any person employed on the Site or Works, including the EPC developer'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 EPC developer shall then appoint (or cause to be appointed) a suitable replacement person.

7.10 Records of EPC developer's Personnel and Equipment

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

7.11 Disorderly Conduct

The EPC developer shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the EPC developer's Personnel, and to preserve peace and protection of persons and property on and near the Site. The EPC developer shall indemnify and hold harmless the Employer/ EPC Consultant against any claims on such account.

8 Plant Machinery and Maintenance

8.1 Manner of Execution

The EPC developer 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 workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.
- (d) Shall be subjected to tests from time to time as and when desired and instructed by the Engineer

8.2 Samples

The EPC developer shall submit samples to the Engineer, for review in accordance with the procedures for EPC developer's Documents described in Sub-Clause 5.2 (EPC developer's Documents), as specified in the Contract and at the EPC developer's cost. Each sample shall be labeled as to origin and intended use in the Works.

8.3 Inspection

The Engineer, his authorized subordinates, the employer's personnel and officers of the Chief Technical Examiner's Organization 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, to the extent specified in the Contract, 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.
- (b) The EPC developer 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 EPC developer from any obligation or responsibility.

In respect of the work which Employer's Personnel are entitled to examine, inspect, measure and/or test, the EPC developer shall give notice to the Engineer whenever any such work is ready and before it is covered, 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 EPC developer that the Employer does not require to do so. If the EPC developer 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 EPC developer's cost.

8.4 Testing

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

The EPC developer 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 EPC developer 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 14 (Variations and Adjustments), vary the location or details of specified tests, or instruct the EPC developer 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 EPC developer, notwithstanding other provisions of the Contract.

The Engineer shall give the EPC developer 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 EPC developer 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.

If as a result of a delay for which the Engineer is responsible, the performance of the Contract is delayed, the EPC developer shall give notice to the Engineer and shall be entitled subject to Sub-Clause 21.1 (EPC developer's Claims) to an extension of time for any such delay, if completion is or is likely be delayed, under Sub-Clause 9.4 (Extension of Time for Completion). No extra payment shall be made in this context to the EPC developer.

The EPC developer shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the EPC developer's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

8.5 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 EPC developer, with reasons. The EPC developer shall then promptly make good the defect at his own cost and ensure that the rejected item is redone complying with the Contract.

In the event of the EPC developer failing to do so and if the item of work is acceptable without detriment to the safety and utility of the item and the structure, the engineer may accept such items with suitable cost adjustment/reduction as the competent authority may consider reasonable.

If the Engineer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. No adjustments or extra payments shall be payable to the EPC developer in this regard.

8.6 Remedial Work

Notwithstanding any previous test or certification, the Engineer may instruct the EPC developer 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.

If the EPC developer fails to comply with any such instruction, which complies with Sub-Clause 3.4 (Engineer's Instructions), the Employer shall be entitled to employ and pay other persons to carry out the work and recover the additional cost from the EPC developer, which may be deducted from any payments due to the EPC developer.

8.7 Ownership of Plant and Materials

Each item of Plant and Materials shall, to the extent consistent with Indian laws, become the property of the Employer, free from liens and other encumbrances when it is delivered to the Site;

8.8 Royalties

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

- (a) natural Materials obtained from outside the Site, and
- (b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

9 Commencement, Delays and Suspension

9.1 Commencement of Works

Unless otherwise stated in the Contract Agreement:

- (a) The Employer/ EPC Consultant shall give the EPC developer not less than 7 days notice of the Commencement Date; and
- (b) The Commencement Date shall be as per Clause 1.3 of Instructions to Tenderers.

The EPC developer shall commence the design and execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

9.2 Time for Completion

The EPC developer shall complete the whole of the Works, within the Time for Completion stated in the Contract for the Works, 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 11.1 (Taking Over of the Works and Sections).

9.3 Programme

The EPC developer shall submit a detailed time programme indicating all activities to the Engineer and get it approved from the Engineer within 30 days after the Commencement Date. The EPC developer shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the EPC developer's obligations. Unless otherwise stated in the Contract, each programme shall include:

- (a) The order in which the EPC developer intends to carry out the Works, including the anticipated timing of each major stage of the Works,
- (b) The periods for reviews under Sub-Clause 5.2 (EPC developer's Documents),
- (c) The sequence and timing of inspections and tests specified in the Contract, and
- (d) A supporting report which includes:
 - (i) a general description of the methods which the EPC developer intends to adopt for the execution of each major stage of the Works, and
 - (ii) the approximate number of each class of EPC developer's Personnel and of each type of EPC developer's Equipment for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the EPC developer stating the extent to which it does not comply with the Contract, the EPC developer 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 EPC developer shall promptly give advance notice (at least 30 days) to the Engineer of specific probable future events or circumstances, which may adversely affect or delay the execution of the Works. In this event, or if the Engineer gives notice to the EPC developer that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the EPC developer's stated intentions, the EPC developer shall submit a revised programme to the Engineer in accordance with this Sub-Clause.

9.4 Extension of Time for Completion

The EPC developer shall be entitled subject to Sub-Clause 21.1 (EPC developer's Claims) to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 11.1 (Taking Over of the Works and Sections) is or will be delayed by any of the following causes;

- (a) A Variation
- (b) A cause of delay giving an entitlement to extension of time, or
- (c) Any delay, impediment or prevention caused by or attributable to the Employer/ EPC

Consultant, the Employer's Personnel, or the Employer's other EPC developers on the Site.

If the EPC developer considers himself to be entitled to an extension of the Time for Completion, the EPC developer shall give notice to the Engineer in accordance with Sub Clause 21.1 (EPC developer's Claims). When determining each extension of time under Sub-Clause 21.1, the Engineer may increase, but shall not decrease, the total extension of time.

No claim towards idle time charges shall be entertained by the EPC Consultant for any reasons whatsoever. However, if the work is delayed for reasons attributable to the Employer/ EPC Consultant, the Employer/EPC Consultant may at his discretion, grant extension of time, as he considers reasonable for the proper completion of work. The grant of such extension of time will not bestow on the EPC developer any right to claim compensation/extra payment for idling of plant, labour and over head loss etc at a future date whatsoever.

9.5 Delays Caused by Authorities

If the following conditions apply, namely:

- (a) the EPC developer has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,
- (b) these authorities delay or disrupt the EPC developer's work, and
- (c) the delay or disruption was not reasonably foreseeable by an experienced EPC developer by the date for submission of the Tender,

then this delay or disruption will be considered as a cause of delay under subparagraph (b) of Sub-Clause 9.4 (Extension of Time for Completion).

9.6 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 will fall) behind the current programme under Sub-Clause 9.3 (Programme),

other than as a result of a cause listed in Sub-Clause 9.4 (Extension of Time for Completion), then the Engineer may instruct the EPC developer to submit, under SubClause 9.3 (Programme), a revised programme and supporting report describing the revised methods which the EPC developer proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the EPC developer shall adopt these revised methods, which may require increases in the working hours (but within the statutory permissible limits) and/or in the numbers of EPC developer's Personnel and/or Goods, at the risk and cost of the EPC developer. If these revised methods cause the Employer to incur additional costs, the EPC developer shall subject to Sub-Clause 2.4 (Employer's Claims) pay these costs to the Employer, in addition to liquidated damages (if any) under Sub-Clause 9.7 below.

9.7 Liquidated Damages

In case the Engineer decides to extend the Contract with liquidated damages for delays due to EPC developer, in that case without prejudice to any other right or remedy available to the Employer/ EPC Consultant, the liquidated damages shall be levied at the rate of half percent (0.5%) of the Contract Value for the Works for each week or part of the week the EPC developer is in default subject to a maximum of 10% of the total Contract Value).

If the delay relates only to a portion of the Works with a separate and earlier completion period, the Contract Value shall be restricted to the cost of that portion of the Works only.

The decision of the Engineer as to the compensation payable by the EPC developer under this Clause shall be final and binding.

9.8 Suspension of Work

The Engineer may at any time instruct the EPC developer to suspend progress of part or all of the Works. During such suspension, the EPC developer shall protect, store and secure such part or the Works against any deterioration, loss or damage.

9.9 Consequences of Suspension

The EPC developer shall not be entitled to extra cost (if any), incurred by him, during the period of suspension of Work, if such suspension is

- a. provided for in the Contract, or
- b. necessary for proper execution of Works or by reasons of weather condition or by some default on the part of the EPC developer, or
- c. necessary for the safety of Works or any part thereof or
- d. necessary for the safety of adjoining public or other property or safety of the public or workmen or those who have to be at the Site or
- e. to ensure safety and to avoid disruption of traffic and utilities, as also to permit fast repairs and restoration of any damaged utilities,

The EPC developer shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the EPC developer's faulty design, workmanship or materials, or of the EPC developer's failure to protect, store or secure in accordance with Sub-Clause 9.8.

Suspension Period	Extension of Time	Compensation for the suspension period	Remarks
Upto 14 days	NO	NO	Engineer may at his sole discretion may give extension of time in exceptional circumstances
15 – 30 days	YES	NO	Extension of time as considered proper by the Engineer
Above 30 days	YES	<ul style="list-style-type: none"> • As per Daily rate of wages for idle labour/employees • 70% of the rate for hire charges for idle plant and machinery (excluding cost of fuel and lubricants) • 15% above all 	Compensation as assessed by the Engineer on submission of documentary proof by the EPC developer to Engineer's satisfaction

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		these items to cover overhead costs	
Above 90 days If EPC developer asks for force closure	NO	No compensation except as per part (iii) of Sub-Clause 20.5	EPC developer may ask for closure of the Contract, or deletion from the Contract of that part of Works which has been suspended

9.10 Resumption of Work

After the permission or instruction to proceed is given, the Parties shall jointly examine the Works and the Plant and Materials affected by the suspension. The EPC developer shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

10 Tests on Completion

10.1 EPC developer's Obligations

The EPC developer shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 8.4, (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 EPC developer shall give to the Engineer not less than 21 days' notice of the date after which the EPC developer will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.

Unless otherwise stated in the Special Conditions of Contract, 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 the building can safely under-take 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 EPC developer 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 Performance Guarantees.

Trial operation shall not constitute a taking-over under Clause 11 (Employer's Taking Over). Unless otherwise stated in the Special Conditions of Contract, any product produced by the Works during trial operation shall be the property of the Employer.

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 EPC developer shall submit a certified report of the results of these Tests to the Engineer.

10.2 Delayed Tests

If the Tests on Completion are being unduly delayed by the EPC Consultant / Engineer, Sub-Clause 8.4 (Testing) (fifth paragraph) and/or Sub-Clause 11.3 (Interference with Tests on Completion) shall be applicable.

If the Tests on Completion are being unduly delayed by the EPC developer, the Engineer may by notice require the EPC developer to carry out the Tests within 21 days after receiving the notice. The EPC developer shall carry out the Tests on such day or days within that period as the EPC developer may fix and of which he shall give notice to the Engineer.

If the EPC developer fails to carry out the Tests on Completion within the period of 21 days, the EPC Consultant 's Personnel may proceed with the Tests at the risk and cost of the EPC developer. These Tests on Completion shall then be deemed to have been carried out in the presence of the EPC developer and the results of the Tests shall be accepted as accurate.

10.3 Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 8.5 (Rejection) shall apply, and the EPC Consultant or the EPC developer may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

10.4 Failure to Pass Tests on Completion

If the Works, or a Section, fail to pass the Tests on Completion repeated under SubClause 10.3 (Retesting), the Engineer shall be entitled to:

- (a) order further repetition of Tests on Completion under Sub-Clause 10.3;
- (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 EPC Consultant shall have the same remedies as are provided in subparagraph (c) of Sub-Clause 12.4 (Failure to Remedy Defects); or
- (c) issue a Taking-Over Certificate.

In the event of sub-paragraph (c), the EPC developer shall 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 Engineer 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).

11 Taking Over by EPC Consultant on behalf of Employer

11.1 Taking Over of the Works and Sections

Except as stated in Sub-Clause 10.4 (Failure to Pass Tests on Completion), the Works shall be taken over by the EPC Consultant on behalf of Employer when

- (i) the employer receives the virtual completion certificate issued by the EPC consultant. On successful completion of all the works, the EPC developer shall hand over the same to HLL (EPC Consultant).
- (ii) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 9.2 (Time for Completion) and except as allowed in sub-paragraph (a) below, and
- (iii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The EPC developer may apply by notice to the EPC Consultant for a Taking-Over Certificate after obtaining virtual completion certificate from the EPC consultant. If the Works are divided into Sections, the EPC developer may similarly apply for a Taking-Over Certificate for each Section after obtaining virtual completion certificate for the same.

The EPC consultant on behalf of Employer shall, within 28 days after receiving the EPC developer's application,:

- (a) issue the Taking-Over Certificate to the EPC developer, stating the date on which the Works or Section were completed in accordance with the Contract, including making good of defects if any at EPC developer's Cost
- (b) reject the application, giving reasons and specifying the work required to be done by the EPC developer to enable the Taking-Over Certificate to be issued. The EPC developer shall then complete this work, before issuing a further notice under this Sub-Clause.

11.2 Taking Over of Parts of the Works

Parts of the Works (other than Sections) shall not be taken over by the EPC consultant, except as may be stated in the Contract or as may be agreed by both Parties.

11.3 Interference with Tests on Completion

If the EPC developer is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the EPC Consultant is responsible, the EPC developer shall carry out the Tests on Completion as soon as practicable.

If the EPC developer suffers delay as a result of this delay in carrying out the Tests on Completion, the EPC developer shall give notice to the Engineer and shall be entitled subject to Sub-Clause 21.1 (EPC developer's Claims) to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 9.4 (Extension of Time for Completion). No extra payment will be made to the EPC developer in this regard.

After receiving this notice, the Engineer shall proceed in accordance with to agree or determine these matters.

12 Defects Liability Period

The Defects Liability Period shall be as per the period stated in clause 1.3 of Instructions to Tenderers.

12.1 Completion of Outstanding Work and Remedying Defects

In order that the Works and EPC developer's Documents, and each Section, shall be in the condition 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 EPC developer 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 defects or damage, as may be notified by the Engineer on or before the expiry date of the Defects Liability Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Engineer shall notify the EPC developer accordingly.

12.2 Cost of Remedying Defects

All work referred to in sub-paragraph (b) of Sub-Clause 12.1 (Completion of Outstanding Work and

Remedying Defects) shall be executed at the risk and cost of the EPC developer, if and to the extent that the work is attributable to:

- (a) the design of the Works,
- (b) Plant, Materials or workmanship not being in accordance with the Contract,
- (a) improper operation or maintenance which was attributable to matters for which the EPC developer is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or
- (b) failure by the EPC developer to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Engineer shall give notice to the EPC developer accordingly following which; the EPC developer must proceed with the instructions given by the Engineer to make good the defects at no extra cost.

12.3 Extension of Defects Liability Period

The Employer/ EPC Consultant may at his discretion, extend the Defects Liability Period for the Works or a Section if and to the extent that the Works, Section or a major equipment of the building (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Liability Period shall not be extended by more than six months. Extra expenses /losses incurred by the Employer due to any extension of Defects Liability Period shall be recovered from EPC developer.

12.4 Failure to Remedy Defects

If the EPC developer fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The EPC developer shall be given reasonable notice of this date.

If the EPC developer fails to remedy the defect or damage by this notified date and this remedial work, the Employer / EPC Consultant may (at his discretion):

- (a) carry out the work himself or by others, in a reasonable manner and at the EPC developer's cost, but the EPC developer shall have no responsibility for this work; and the EPC developer shall subject to Sub-Clause 2.4 (Employer's Claims) pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;
- (b) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, 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 EPC developer.

12.5 Removal of Defective Work

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

12.6 Further Tests

If the work of remedying of any defect or damage may affect the performance of the Works, the EPC Consultant 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 28 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 12.2 (Cost of Remedying Defects), for the cost of the remedial work.

12.7 Right of Access

Until the Performance Certificate has been issued, the EPC developer 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.

12.8 EPC developer to Search

The EPC developer shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. The defect is to be remedied at the cost of the EPC developer under Sub-Clause 12.2 (Cost of Remedying Defects).

12.9 Performance Certificate

Performance of the EPC developer's obligations shall not be considered to have been completed until the EPC consultant on behalf of TMC has issued the Performance Certificate to the EPC developer, stating the date on which the EPC developer completed his obligations under the Contract.

The EPC consultant shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Liability Periods, or as soon thereafter as the EPC developer has supplied all the EPC developer's Documents and completed and tested the Works, including remedying any defects.

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

12.10 Unfulfilled Obligations

After the Performance Certificate has been issued, each Party shall remain liable for the fulfillment of any obligation, which in the opinion of the Engineer 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.

12.11 Clearance of Site

Upon receiving the Performance Certificate, the EPC developer shall remove any remaining EPC developer'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 EPC consultant issues the Performance Certificate, the Employer/ EPC Consultant 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 EPC developer. If these moneys are less than the Employer's costs, the EPC developer shall pay the outstanding balance to the Employer.

13 Tests after Completion

13.1 Procedure for Tests after Completion

- a. the EPC developer shall provide everything necessary to carry out the Tests after

- Completion efficiently; and
- b. the EPC developer shall carry out the Tests after Completion in the presence of Engineer, any Employer's and/or EPC developer'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 Engineer shall give to the EPC developer 21 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 14 days after this date, on the day or days determined by the Engineer in consultation with the Employer.

The results of the Tests after Completion shall be compiled and evaluated by the EPC developer, who shall prepare a detailed report. 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.

13.2 Delayed Tests

If the EPC developer suffers any delay as a result of any unreasonable delay by the EPC Consultant to the Tests after Completion, the EPC developer shall

- (i) give notice to the Engineer and.
- (ii) be entitled subject to Sub-Clause 21.1 (EPC developer's Claims) to extension of time.

If, for reasons not attributable to the EPC developer, 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. No extra payments shall be made to the EPC developer in this regard.

13.3 Retesting

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

- (a) sub-paragraph (b) of Sub-Clause 12.1 (Completion of Outstanding Work and Remedying of 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 under the same terms and conditions.

If and to the extent that this failure and retesting are attributable to any of the matters listed in sub-paragraphs (a) to (d) of Sub-Clause 12.2 (Cost of Remedying Defects) and cause the Employer to incur additional costs, the EPC developer shall pay these costs to the Employer.

13.4 Failure to Pass Tests after Completion

If the Works, or a Section, fail to pass a Test after Completion and the EPC developer shall then remain liable to carry out the adjustments or modifications and to satisfy this Test as per the instructions of the Engineer.

14 Variations and Adjustments

14.1 Right to Vary

The EPC Consultant may initiate variations at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the EPC developer to submit a proposal. A Variation shall not comprise the omission of any work, which is to be carried out by others.

The EPC developer shall execute and be bound by each Variation. There will be no adjustments or change

in contract price on account of variations that do not materially alter the scope of work.

14.2 Variation Procedure

If the EPC Consultant requests a proposal, prior to instructing a Variation, the EPC developer shall respond in writing as soon as practicable, either by giving reasons or by submitting:

- (a) a description of the proposed design and/or work to be performed and a programme for its execution,
- (b) the EPC developer's proposal for any necessary modifications to the programme according to Sub-Clause 9.3 [Programme] and to the Time for Completion, and

Each instruction to execute a Variation, shall be issued by the Engineer to the EPC developer, who shall acknowledge receipt.

14.3 Adjustments in Contract Price

Where there is material departure from the scope of work, adjustments in the Contract Price shall be made on pro-rata basis.

15 Contract Price and Payment

15.1 The Contract Price

Unless otherwise stated in the Special Conditions of Contract:

- (a) payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract; and
- (b) the EPC developer shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs
- (c) The contract price shall be inclusive of all taxes and levies payable under respective statutes. However, pursuant to the constitution (46th Amendment) Act 1982, if any further indirect tax or levy is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the EPC developer thereupon necessarily and properly pays such indirect taxes/levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not, in the opinion of the Employer (whose decision shall be final and binding on the EPC developer) attributable to delay in execution of work within the control of the EPC developer. Any change in direct taxes will not be considered for reimbursement.
The EPC developer shall keep books of accounts and other documents for the purpose of this condition as may be necessary to clearly arrive at such amounts and shall allow inspection of the same by a duly authorized representative of the EPC Consultant / Employer and further shall furnish such other information/document as the EPC Consultant / Employer may require from time to time.

15.2 Schedule of Payments

The schedule of payments shall be as per Clause 3.2 of NIT. All the payments to the EPC developer shall be made according to the schedule of payments except as stated in the Contract.

Based on the certification of EPC Consultant, the payment to the EPC developer shall be released by TMC. The contract agreement shall be executed between TMC & EPC developer.

15.3 Payments in Indian Currency

All the payments shall be made in Indian Rupees only.

15.4 Advance Payment

The Employer shall make the following advance payments to the EPC developer for the purpose of the Works after certified by the EPC Consultant.

i. Mobilisation Advance

Mobilisation advance shall be paid upto 5% of original Construction Value stated in the Letter of Acceptance and is payable in two equal installments. The first installment shall be paid after mobilization has started and next installment shall be paid after satisfactory utilization of earlier advance. The interest rates shall be charged at 10% per annum.

Mobilisation advance shall be paid against acceptable Bank Guarantee from a Scheduled Commercial Bank in India and valid upto 6 months after completion of Defects Liability Period

In case of mobilization advance, the EPC developer, once the 50% of mobilization advance has been recovered, shall have a one-time option to reduce the Bank Guarantee for the mobilization advance by the amount recovered.

15.5 Recovery of Advances

- a. The recovery of mobilization advances shall commence when 15% of the original Construction Value of the work has been paid and it will be completed by the time 85% of the original construction value has been paid. As far as possible the recovery of advances shall be limited to 30% of an account bill.
- b. Recovery of plant and machinery advance if any shall be done in one lump sum at the time of payment for the installation of such plant and machinery.
- c. The EPC developer shall always have the option to have the recoveries commenced and / or completed earlier, and / or to have recoveries affected in installments of higher amount and also to repay part or whole of the advance by direct payment rather than through On-account Bills.

15.6 Interest in Case of Delay in Repayment of Advances

Should there be any delay in the progress and completion of work, as a result of which it is not possible to recover the advance and interest thereon, before the original date of completion stipulated in the Contract, then the interest to be charged from the EPC developer on the remaining portion of the advance beyond the completion date specified in the Contract, shall be 2% above State Bank of India prime lending Rate or 10% whichever is higher. In all cases, the BG for mobilization advance shall be valid for 6 months after Defects Liability Period.

15.7 Advances to be used only for This Work.

The advances shall be used by the EPC developer strictly for the purpose of the Contract, and for the purpose for which they are paid. Under no circumstances, shall the advances be diverted for other purposes. Any such diversion shall be construed as a breach of the Contract and the EPC developer shall be liable to return the advance at once and to pay interest at 2% above State Bank of India prime lending Rate or 15% per annum whichever is higher, till the advance is recovered back from him.

15.8 Application for Interim Payments

The EPC developer shall submit a Statement in six copies to the Engineer in charge after the end of the period of payment stated in the Contract (if not stated, after the end of each month), in a form approved by the Engineer/ Employer, showing in detail the amounts to which the EPC developer considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.20 (Progress Reports).

15.9 Interim Payments

No amount will be paid until the Employer has received and approved the Performance Security. Thereafter, the Employer shall within 28 days after receiving a Statement and supporting documents, give to the EPC developer notice of any items in the Statement with which the EPC Consultant / Employer disagrees, with supporting particulars. Payments due shall not be withheld, except that:

- (a) if any thing supplied or work done by the EPC developer 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
- (b) if the EPC developer was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Employer/ EPC Consultant, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Employer/ EPC Consultant may, by any payment, make any correction or modification that should properly be made to any amount previously considered due. Payment shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction.

15.10 Timing of Payments

Except as otherwise stated in Sub-Clause 2.4 (Employer's Claims), the Employer shall pay to the EPC developer on verification and certification by the EPC Consultant :

- (a) the first installment of the advance payment within 42 days after the date on which the Contract came into full force and effect or within 21 days after the Employer receives the documents in accordance with Sub-Clause 4.2 (Performance Security) and Sub-Clause 15.4 (Advance Payment), whichever is later;
- (b) the amount which is due in respect of each Statement, other than the Final Statement, within 56 days after receiving the Statement and supporting documents; and
- (c) the final amount due, within 42 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 15.13 (Application for Final Payment) and Sub-Clause 15.14 (Discharge).

Payment of the amount due in each currency shall be made into the bank account, nominated by the EPC developer, in the payment country (for this currency) specified in the Contract.

The payment shall be based on the milestone as per the Volume I of RFP document (clause 3 of Section I)

15.11 Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the EPC developer shall submit to the Employer/ EPC Consultant six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 15.8 (Application for Interim Payments), 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 EPC developer considers to be due, and

- (c) an estimate of any other amounts which the EPC developer considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Employer shall then give notice to the EPC developer in accordance with Sub-Clause 15.9 (Interim Payments) and make payment in accordance with Sub-Clause 15.10 (Timing of Payments).

15.12 Application for Final Payment

Within 60 days after receiving the Performance Certificate, the EPC developer shall submit, to the EPC Consultant, six copies of a draft final statement with supporting documents showing in detail in a form approved by the EPC Consultant:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the EPC developer considers to be due to him under the Contract or otherwise.

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

However if, following discussions between the Parties and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Employer shall pay the agreed parts of the draft final statement in accordance with Sub-Clause 15.9 (Interim Payments) and Sub-Clause 15.10 (Timing of Payments) based on the recommendation from the EPC Consultant. Thereafter, if the dispute is finally resolved under Clause 21 the EPC developer shall then prepare and submit to the EPC Consultant a Final Statement.

15.13 Discharge

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

15.14 Final Payment

In accordance with sub-paragraph (c) of Sub-Clause 15.10 (Timing of Payments), the Employer shall pay to the EPC developer the amount which is finally due, less all amounts previously paid by the Employer and any deductions in accordance with Sub-Clause 2.4 (Employer's Claims) based on the recommendation/certification from the EPC Consultant.

15.15 Cessation of Employer's Liability

The Employer shall not be liable to the EPC developer for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the EPC developer 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 15.12 (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.

16 Termination by the Employer

16.1 Notice to Correct

If the EPC developer fails to carry out any obligation under the Contract, the EPC Consultant / Employer may by notice require the EPC developer to make good the failure and to remedy it within a specified reasonable time.

16.2 Termination by Employer due to EPC developer's Default

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the EPC Developer in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- (a) fails to comply with Sub-Clause 4.2 (Performance Security) or with a notice under Sub-Clause 16.1 (Notice to Correct),
- (b) If the EPC Developer having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- (c) If the EPC Developer has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- (d) If the EPC Developer fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.
- (e) If the EPC Developer persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- (f) If the EPC Developer shall offer or give or agree to give to any person in HLL/TMC or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for HLL/TMC.
- (g) If the EPC Developer shall enter into a contract with TMC in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- (h) If the EPC Developer had secured the contract with TMC as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.
- (i) If the EPC Developer being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

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- (j) If the EPC Developer being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- (k) If the EPC Developer shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- (l) If the EPC Developer assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge.
- (m) without reasonable excuse fails to proceed with the Works in accordance with Clause 9 (Commencement, Delays and Suspension),
- (n) subcontracts the whole of the Works or assigns the Contract without the required agreement,

In any of these events or circumstances, the Employer may, upon giving 7 days' notice to the EPC developer, terminate the Contract and expel the EPC developer from the Site based on the recommendation from the EPC Consultant. However, in the case of sub-paragraph (f) or (i), the Employer may by notice terminate the Contract immediately. Upon such termination, the Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the TMC.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The EPC developer shall then leave the Site and deliver any required Goods, all EPC developer's Documents, and other design documents made by or for him, to the Employer. However, the EPC developer 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/ EPC Consultant may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, EPC developer's Documents and other design documents of the EPC developer.

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

16.3 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 16.2 has taken effect, the Engineer shall determine the value of the Works, Goods and EPC developer's Documents, and any other sums due to the EPC developer for work executed in accordance with the Contract as considered reasonable by the Engineer.

16.4 Payment after Termination

After a notice of termination under Sub-Clause 16.2 has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.4 (Employer's Claims),
- (b) with-hold further payments to the EPC developer 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 EPC developer any losses and damages incurred by the Employer and any extra

costs of completing the Works, after allowing for any sum due to the EPC developer under Sub-Clause 16.3 (Valuation at Date of Termination). After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the EPC developer.

16.5 Termination due to Employers Convenience

If at any time after acceptance of the tender, Engineer-in-charge shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the EPC Developer and the EPC Developer shall act accordingly in the matter. The EPC Developer shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The EPC Developer shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

- (i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
- (ii) employer shall have the option to take over EPC Developer's materials or any part thereof either brought to site or of which the EPC Developer is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however employer shall be bound to take over the materials or such portions thereof as the EPC Developer does not desire to retain. For materials taken over or to be taken over by employer, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the EPC Developer.
- (iii) If any materials supplied by employer are rendered surplus, the same except normal wastage shall be returned by the EPC Developer to employer at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the EPC Developer.
In addition, cost of transporting such materials from site to the Employer's stores, if so required by employer, shall be paid.
- (iv) Reasonable compensation for transfer of T & P from site to EPC Developer's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- (v) Reasonable compensation for repatriation of EPC Developer's site staff and imported labour to the extent necessary.

The EPC Developer shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

After this termination, the EPC developer shall proceed in accordance with Sub-Clause 17.2 (Cessation of Work and Removal of EPC developer's 'Equipment) and shall be paid in accordance with Sub-Clause 20.5 (Optional Termination, Payment and Release).

17 Termination by EPC developer

17.1 Termination by EPC developer

The EPC developer shall be entitled to terminate the Contract if:

- (a) failing to pay to the EPC developer the amount due without reasonable cause, under any certificate of the Engineer, within ninety days after the same shall have become due under the

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terms of the Contract, subject to any deduction that the Employer is entitled to make under the Contract, or

- (b) (the Employer/ EPC Consultant substantially fails to perform his obligations under the Contract,
- (c) 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 EPC developer may, upon giving 52 days notice to the Employer, terminate the Contract. However, in the case of subparagraph (c), the EPC developer may by notice terminate the Contract immediately.

17.2 Cessation of Work and Removal of EPC developer's Equipment

After a notice of termination under Sub-Clause 16.5 (Termination Due to Employer's Convenience), Sub-Clause 16.1 (Termination by EPC developer) or Sub-Clause 20.5 (Optional Termination), Payment and Release) has taken effect, the EPC developer shall promptly:

- (a) cease all further work, except for such work as may have been instructed by the Employer for the protection of life or property or for the safety of the Works,
- (b) hand over EPC developer's Documents, Plant, Materials and other work, for which the EPC developer has received payment, and
- (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

17.3 Payment on Termination

After a notice of termination under Sub-Clause 17.1 (Termination by EPC developer) has taken effect, the Employer shall promptly:

- (a) return the Performance Security to the EPC developer,
- (b) pay to the EPC developer the value of the Work done as considered reasonable by the Engineer and
- (c) pay the EPC developer in accordance with Sub-Clause 20.5 (Optional Termination, Payment and Release)

18 Risk and Responsibility

18.1 EPC developer's Care of the Works

The EPC developer shall be fully responsible for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued for any Section of the Works, responsibility for the care of the Section shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the EPC developer 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 EPC developer's Documents during the period when the EPC developer is responsible for their care, from any cause not listed in Sub-Clause 18.3 (Employer's Risks), the EPC developer shall rectify the loss or damage at the EPC developer's risk and cost, so that the Works, Goods and EPC developer's Documents conform to the Contract.

The EPC developer shall be liable for any loss or damage caused by any actions performed by the EPC

developer after a Taking-Over Certificate has been issued. The EPC developer 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 EPC developer was liable.

18.2 Indemnities

18.2.1 Indemnity by the EPC developer

The EPC developer shall indemnify and hold harmless the Employer, the Engineer/ EPC Consultant, 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 Engineer, 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:
 - (i) arises 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, and
 - (ii) is not 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.

18.2.2 Indemnity by the Employer

The Employer shall indemnify and hold harmless the EPC developer, the EPC developer'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, 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,

18.3 Employer's Risks

The risks referred to in Sub-Clause 18.4 below are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, terrorism, 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
- (d) EPC developer's Personnel and other employees of the EPC developer and SubEPC developers,
- (e) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the EPC developer's use of such munitions, explosives, radiation or radio-activity, and
- (f) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

18.4 Consequences of Employer's Risks

If and to the extent that any of the risks listed in Sub-Clause 18.3 above results in loss or damage to the Works, Goods or EPC developer's Documents, the EPC developer shall promptly give notice to the Engineer with a copy to the Employer and shall rectify this loss or damage to the extent required by the Engineer.

If as a result of rectifying this loss or damage, there is any delay in the performance of the Contract, the EPC

developer shall give a further notice to the Engineer and shall be entitled subject to an extension of time for any such delay, if completion is or will be delayed under Sub-Clause 9.4 (Extension of Time for Completion). No extra payment shall be given to the EPC developer for any delay suffered due to the above reason.

18.5 Intellectual and Industrial Property Rights

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trademark, 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 the EPC developer does not give notice to the Employer of any claim within 28 days of receiving the claim, the EPC developer shall be deemed to have waived any right to indemnity under this Sub-Clause.

The EPC developer shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to

- (i) the EPC developer's design, manufacture, construction or execution of the Works, procurement, installation, commissioning and testing of equipments
- (ii) the use of EPC developer's Equipment,
- (iii) the proper use of the Works.

18.6 Limitation of Liability

The Employer shall not be liable to the EPC developer 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 EPC developer in connection with the Contract, other than under Sub-Clause 17.3 (Payment on Termination) and Sub-Clause 18.2 (Indemnities).

The total liability of the EPC developer to the Employer, under or in connection with the Contract other than under Sub-Clause 4.18 (Electricity, Water and Gas), Sub-Clause 4.19 (Employer's Equipment), Sub-Clause 18.2 (Indemnities) and Sub-Clause 18.5 (Intellectual and Industrial Property Rights), shall not exceed the sum stated in the Special Conditions of Contract or (if a sum is not so stated) the Contract Price stated in the Contract Agreement.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

19 Insurance

19.1 General Requirements for Insurance

Before commencing execution of Works, unless stated otherwise in the Special Conditions of Contract, it shall be obligatory for the EPC developer to obtain at his own cost stipulated insurance cover under the following requirements in the joint names with HLL:

- (a) EPC developer's All Risk and Third Party Cover. (CAR policy)
- (b) Liability under the Workmen's compensation Act, 1923, Minimum Wages Act, 1948 and Contract Labour (Regulation and Abolition) Act, 1970.
- (c) Accidents to staff, Engineers, Supervisors and others who are not governed by Workmen's Compensation Act.
- (d) Damage to Material, machinery and Works due to fire, theft etc.
- (e) Any other risk insurance which the Employer requires at any point of time or that is specified in the Special Conditions of Contract.

19.1.1 Professional Indemnity Insurance Policy

The EPC developer is required to indemnify the employer against losses and damages incurred by the employer through the acts of the EPC developer and shall take out and maintain a Professional Indemnity Insurance Policy in the joint name of employer and EPC developer for a sum equivalent to 25% of the cost of project with a nationalized insurance company or any other recognized insurance company by paying a requisite premium.

No adjustments in contract price shall be made for providing insurance.

19.2 Policy In Joint Names of EPC developer and Employer

The policy referred to under **Clause 19** above shall be obtained in the joint names of the EPC developer and the Employer/ EPC Consultant and shall inter alia provide coverage against the following, arising out of or in connection with execution of Works, their maintenance and performance of the Contract.

- (a) Loss of life or injury involving public, employee of the EPC developer, or that of Employer/ EPC Consultant and Engineer, labour etc.
- (b) Injury, loss or damages to the Works or property belonging to public, Government bodies, local authorities, utility organisations, EPC developers, Employer or others.
- (c) Losses/damages which may occur through the acts of the EPC developer/architect.

19.3 Currency of Policy

The policies shall remain in force throughout the period of execution of the Works and till the expiry of the Defects Liability Period. If the EPC developer fails to effect or keep in force or provide adequate cover in the Insurance policies mentioned in **Clause 19**, or any other insurance he might be required to effect under the Contract, then, the Employer, on recommendation of EPC Consultant, may effect and keep in force any such insurance or further insurance and the cost and expenses incurred by him in this regard shall be deductible from payments due to the EPC developer or from the EPC developer's Performance Security.

20 Force Majeure

20.1 Definition of Force Majeure

In this Clause, "Force Majeure" means an exceptional event or circumstance:

- (a) which is beyond a Party's control,
- (b) which such Party could not reasonably have provided against before entering into the Contract,
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) 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:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war,
- (iii) riot, commotion, disorder, strike or lockout by persons other than the EPC developer's Personnel and other employees of the EPC developer and Sub EPC developers,
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity,

except as may be attributable to the EPC developer's use of such munitions, explosives, radiation or radio-activity, and

- (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

20.2 Notice of Force Majeure

If a Party is or will be prevented from performing any of its 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. The notice shall be given within 14 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 such 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 of either Party to make payments to the other Party under the Contract.

20.3 Duty to Minimise 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.

20.4 Consequences of Force Majeure

If the EPC developer is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 20.2 and the performance of the Contract is delayed or likely to be delayed by reason of such Force Majeure, the EPC developer shall, in the opinion of the Engineer, be entitled subject to a reasonable extension of time for any such delay in accordance with Clause 9.9 (Consequences of Suspension).

20.5 Optional Termination, Payment and Release

If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 20.2 (Notice of Force Majeure), or for multiple periods which total more than 140 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 7 days after the notice is given, and the EPC developer shall proceed in accordance with Sub-Clause 17.2 (Cessation of Work and Removal of EPC developer's Equipment).

Upon such termination, the Employer shall pay to the EPC developer:

- (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 EPC developer and in the opinion of the Engineer has become the property of the Employer and the EPC developer shall place the same at the Employer's disposal;
- (c) any other Cost or liability which in the opinion of the Engineer was reasonably incurred by the EPC developer in the expectation of completing the Works;

20.6 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 fulfill 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 EPC developer shall be the same as would have been payable under Sub-Clause 20.5 (Optional Termination, Payment and Release) if the Contract had been terminated under Sub-Clause 20.5.

21 Claims, Disputes and Arbitration

21.1 EPC developer's Claims

If the EPC developer considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the EPC developer shall give notice to the Engineer with a copy to the Employer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the EPC developer became aware, or should have become aware, of the event or circumstance.

If the EPC developer fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the EPC developer shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The EPC developer shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The EPC developer shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the EPC developer to keep further contemporary records. The EPC developer shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 42 days after the EPC developer became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the EPC developer and approved by the Engineer, the EPC developer shall send to the Engineer with a copy to the Employer a fully detailed claim which includes full supporting particulars of the basis of the claim for the extension of time. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) This fully detailed claim shall be considered as interim;
- (b) the EPC developer shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) The EPC developer shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the EPC developer and approved by the Engineer.

The Engineer shall determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 9.4 (Extension of Time for Completion).

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the EPC developer fails to comply with this or another Sub Clause in relation to any claim, any extension of time shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

21.2 Claims & Liens In Respect of Claims In Other Contracts

21.2.1 Claims

The EPC developer shall send to the Engineer's Representative once in every three months an account giving particulars, along with full details and justification, of all claims for any additional payment to which the EPC developer may consider himself entitled and of all extra or additional work ordered by the Engineer, which he has executed during the preceding three months. No final or interim claim for payment for any such work or expense will be considered which has not been included in such particulars.

21.2.2 Lien in Respect of Claims in Other Contracts

Any money due to the EPC developer either alone or jointly with others, including the Performance Security amount returnable to him, may be withheld or retained by exercise of lien by the Employer, against any claim of the Employer in respect of payment of a sum of money arising out of or under any Contract other than the present Contract made by the EPC developer, alone or jointly with the Employer. It is an agreed term of Contract that the sums of money so withheld or retained under this clause by the Employer, shall be kept withheld or retained till the claims arising out of or under the other Contract, are either mutually settled or determined by the Arbitrator, or by the competent Court, as the case may be and the EPC developer will have no claims of interest or damage in this regard whatsoever

21.3 Dispute to be referred to and Settled by Engineer at the First Place

Should any dispute or difference of any kind whatsoever arise between the Employer/ EPC Consultant and the EPC developer, touching, in connection with, or arising out of the Contract, or subject matter thereof, or the execution of Works, whether, during the progress of Works or after their completion and whether before or after termination, abandonment or breach of Contract, it should, in the first place, subject to the provision under **Sub-clause 15.16** be referred to and settled by the Engineer, who shall, within a period of sixty days after being requested in writing by either party to do so, give written notice of his decision to the Employer and the EPC developer. The Engineer while considering the matters of dispute referred to him, shall be competent to call for any records, vouchers, information and enforce the attendance of the parties either in person or through authorised representatives, to sort out or clarify any issue, resolve the differences and to assist him to decide the matters referred to him. Subject to arbitration, as hereinafter provided, such decision in respect of every matter so referred shall be final and binding upon the Employer and the EPC developer and shall forthwith be given effect to by the Employer and by the EPC developer, who shall proceed with the execution of Works with all due diligence irrespective of whether any of the parties goes in or desires to go in for arbitration. If the Engineer has given written notice of his decision to the Employer and the EPC developer and no intimation of reference of any claim to arbitration has been sent to him by either the Employer or the EPC developer within a period of sixty days from receipt of such notice, the said decision of the Engineer shall remain final and binding upon the Employer and the EPC developer and the same shall be deemed to have been accepted by them. The Employer or the EPC developer shall not seek any arbitration thereafter.

21.4 Referring of Dispute for Arbitration

If the Engineer shall fail to give notice of his decision, as aforesaid, within a period of sixty days after being requested or if either the Employer or the EPC developer be dissatisfied with any such decision of the Engineer, then the matter in dispute shall be referred to arbitration as herein provided.

21.5 Dispute due for Arbitration

Disputes or differences shall be due for arbitration only if all the conditions in **Sub-clauses 21.3 and 21.4** are fulfilled.

21.6 Settlement of Disputes

Except where otherwise provided in the Contract, all questions, and disputes relating to the meaning of the specification, design, drawings and instructions here-in-before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the Contract, Employer's Requirements, specification, estimates, instruction, orders or these conditions or otherwise concerning the Works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned under in **Clause 21.7**

21.7 Nomination of Arbitrators / Sole Arbitrator

If the Engineer fails to give his instructions or decisions in writing within 2 weeks or if the EPC developer is dissatisfied with the instructions or decision of the Engineer, the EPC developer may within 14 days, of the receipt of Engineer's decision appeal to the Director, TMC who shall appoint an arbitrator.

Except where the decision has become final binding and conclusive, disputes shall be referred for arbitration by the sole arbitrator appointed as above. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever nature, another sole arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this Contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Director, TMC of the appeal.

It is also a term of this Contract that no person other than a person appointed by the Director, TMC in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer that the final bill is ready for payment the claim of the EPC developer shall have to be waived and absolutely barred and the institute shall be discharged and released of all liabilities under the Contract in respect of these claims.

The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of this Contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000 the arbitrator shall give reasons for the award.

It is also a term of the Contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties.

It is also a term of the Contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published be paid half and half by each of the parties. The cost of the reference and of the awards (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be paid.

21.8 No Suspension of Work

The reference to arbitration shall proceed notwithstanding that Works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, the Engineer and the EPC developer shall not be altered by reasons of arbitration being conducted during the progress of Works. Neither party shall be entitled to suspend the work to which the dispute relates on account of arbitration and payments to the EPC developer shall continue to be made in terms of the Contract.

21.9 Award to be Binding on all Parties

The arbitration award shall be binding on all parties.

21.10 Rules Governing the Arbitration Proceedings

The arbitration proceedings shall be governed by Indian Arbitration and Conciliation Act, 1996, as amended from time to time.

21.11 Limitation of Time

No dispute shall be referred to Arbitration after expiry of 60 days from the date of decision by the Engineer, if notified, or from the date when the Engineer ought to have given his decision in terms of provisions under **Sub-clause 21.3** in case of failure on the part of the Engineer to give notice of decision.

21.11 A Where the arbitral award is for payment of money, no interest shall be payable on the whole or any part of the money for any period till the date on which the award is made

21.11 B The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia the fees of the Arbitrator(s) as per the rates fixed by the Employer from time to time.

Any disputes shall be referred to Mumbai courts only if any party is not satisfied with the arbitration.

22. SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to $1\frac{1}{4}$ horizontal and 1 vertical.)
2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.)
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder upto and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The EPC Developer shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the EPC Developer, be paid to compensate any claim by any such person.
6. (a) Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

(b) Safety Measures for digging bore holes:-
 - (i). If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
 - (ii). During drilling, Sign boards should be erected near the site with the address of the drilling EPC Developer and the Engineer in-charge of the work;
 - (iii). Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50m around the point of drilling to avoid entry of people;
 - (iv). After drilling the borewell, a cement platform (0.50m x 0.50m x 1.20m) 0.60m above ground level and 0.60m below ground level should be constructed around the well casing;
 - (v). After the completion of the borewell, the EPC Developer should cap the bore well properly by

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- welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil.
This should be done even while repairing the pump;
- (vi). After the borewell is drilled the entire site should be brought to the ground level.
7. Demolition - Before any demolition work is commenced and also during the progress of the work,
- (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the EPC Developer should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.
- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
 - (iii) Those engaged in welding works shall be provided with welder's protective eyeshields.
 - (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - (v) When workers are employed in sewers and manholes, which are in active use, the EPC Developer shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the EPC Developer shall ensure that the following safety measure are adhered to :-
 - (a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
 - (b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - (c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - (d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
 - (e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - (f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - (g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - (h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - (i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
 - (j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - (k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they

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- should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- (l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.
 - (m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
 - (n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
 - (o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
 - (p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
 - (vi) The EPC Developer shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-
 - (a) No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
 - (b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - (c) Overalls shall be supplied by the EPC Developer to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
9. An additional clause (viii)(i) of Central Public Works Department Safety Code (iv) the EPC Developer shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :
- (i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - (ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
 - (iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - (v) Overall shall be worn by working painters during the whole of working period.
 - (vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of employer/ HLL
 - (viii) Employer/ HLL may require, when necessary medical examination of workers.
 - (x) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-
- (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
 - (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

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- (ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer in-Charge. As regards EPC Developer's machines the EPC Developer shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
 13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
 14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the EPC Developer.
 15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the EPC Developer shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
 16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the EPC Developer from the operations of any other Act or Rule in force in the Republic of India.