

**Request for Proposal (RFP)**  
**For**  
**Engineering, Procurement & Construction**  
**Contract**

**Irrigation & Waterways Department  
Government of West Bengal**

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## DISCLAIMER

This RFP is not an agreement and is neither an offer nor invitation by 'The Authority' to the prospective Bidders or any other person. The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the 'Authority' or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their financial offers (Bids) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the 'Authority' in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the 'Authority', its employees or advisors to consider the objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in the Bidding Documents, especially the **Feasibility Report**, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The 'Authority' accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The 'Authority', its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way for participation in this Bid Stage.

The 'Authority' also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP.

The 'Authority' may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this RFP does not imply that the 'Authority' is bound to select a Bidder or to appoint the Selected Bidder/Consortium or Contractor, as the case may be, for the Project and the 'Authority' reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of their Bid including but not limited to preparation, documentation, scanning uploading, expenses associated with any demonstrations or presentations which may be required by the 'Authority' or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and the 'Authority' shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the e-Bid, regardless of the conduct or outcome of the e-Bidding Process.

## GLOSSARY

<b>Agreement</b>	As defined in Clause 1.1.2
<b>Associate</b>	As defined in Clause 2.1.13
<b>'The Authority'</b>	As defined in Clause 1.1.1
<b>Bid Security or EMD</b>	As defined in Clause 2.20.1
<b>On-line e-Bid(s)</b>	As defined in Clause 1.2.2
<b>Bidders</b>	As defined in Clause 1.2.2
<b>Bidding Documents</b>	As defined in Clause 1.1.7
<b>Bid Due Date</b>	As defined in Clause 1.1.7
<b>Bid Price</b>	As defined in Clause 1.2.6
<b>Bidding Process</b>	As defined in Clause 1.2.1
<b>Performance Security</b>	As defined in Clause 1.2.4
<b>Bid Stage</b>	As defined in Clause 1.2.1
<b>Conflict of Interest</b>	As defined in Clause 2.1.13
<b>Contract Price</b>	As defined in Agreement
<b>Contractor</b>	As defined in Clause 1.1.2
<b>Instruments of Bid Security or EMD</b>	As defined in Clause 2.20.2
<b>Estimated Project Cost</b>	As defined in Clause 1.1.4
<b>Feasibility Report</b>	As defined in Clause 1.2.3
<b>LOA</b>	As defined in Clause 3.3.5
<b>Project</b>	As defined in Clause 1.1.1
<b>Re. or Rs. or INR</b>	Indian Rupee
<b>e-RFP or on-line Request for Proposals</b>	As defined in Clause 1.1.7
<b>RFQ or Request for Qualification/</b>	As defined in Clause 2.1.2
<b>Selected Bidder</b>	As defined in Clause 3.3.1

The words and expressions beginning with capital letters and defined in this document shall, unless the context otherwise requires, have the meaning ascribed thereto herein. The words and expressions beginning with capital letters and not defined herein, but defined in the RFQ, shall, unless the context otherwise requires, have the meaning ascribed thereto therein.

*Government of West Bengal*  
*Office of the Superintending Engineer, North Bengal Mechanical & Electrical Circle*  
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## 1. INTRODUCTION

### 1.1 Background

1.1.1 The Governor of the State represented by the Irrigation & Waterways Department, Government of West Bengal (**"The Department"**) having its Head Quarters/ principal office at Jalasampad Bhavan, Salt Lake, Kolkata has decided to implement the (**"Project"**) through an Engineering, Procurement and Construction the (**"EPC"**) Agreement, and has decided to carry out the on-line bidding process through e-Procurement system of the State through the Chief Engineer, Teesta Barrage Project under this Department represented by the Superintending Engineer, North Bengal Mechanical & Electrical Circle, TBP, (**' Authority'**), for selection of the Bidder to whom the Project may be awarded. Brief particulars of the Project are as follows:

Teesta barrage structure is located at village Gazoldoba across river Teesta at 9.6 mile (15.5 km) downstream of Sevoke Railway bridge, under Block & P.S Mal on the left bank and Block & PS Rajganj in District Jalpaiguri, in the State of West Bengal. (Latitude: 26°45'7.34"N, Longitude: 88°35'13.44"E)

<u>Name of the Project</u>	<u>Assessed Project Cost*</u>
<b>Remote monitoring and control</b> of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal".	<b>Rs. 2030.34 lakh*</b>  (If the quoted bid price of L1 bidder exceed the Assessed Estimated Cost* or plus permissible limits as per DTC, L1 bidder may be asked to furnish detailed rate analysis against each component for consideration by the QBEC and DTC, else the e-RFP would be cancelled and invited afresh)

\*Assessed project cost is only an indicative cost of Schedule of Work/BoQ as per Feasibility Report prepared by 'The Authority' & the bidder is to carefully analyse entire document to bid under EPC agreement.

General Procedure to be followed for e-Procurement in the instant case:

It has been decided by the **'Authority'** that since the scope of work enumerated above are mostly inter-related to each other, and the project needs to be implemented holistically in a time bound manner for its effective operation, Engineering Procurement Contract (EPC) is to be adopted in the instant case by on-line invitation of Request for Proposal (RFP) where under Technical Evaluation and Financial Evaluation of bids in the RFP would be finalized by a 'Departmental Quotation-cum-Bid Evaluation Committee (QBEC).

1.1.2 The Selected Bidder (the **"Contractor"**) through this RFP, shall be responsible for Engineering, Procurement and Construction (EPC) of the Project under and in accordance with the provisions of an engineering procurement and construction agreement (the **"Agreement"**) to be entered into between the Selected Bidder and 'The Authority' in the form provided by the Department as part of this Bidding Document pursuant hereto also referred to as EPC-Agreement.

1.1.3 The scope of work will broadly include the following sub-components:-

- A. Mechanical repair, maintenance, overhauling and renovation of all 45 no. of Teesta Barrage fabricated structural steel vertical gates, 13 no. of Head Regulator structural MS vertical gates of TMLC (Teesta Mahananda Link Canal) and 4 nos. of Head Regulator structural MS vertical gates of TJMC (Teesta Jaldhaka Main Canal).
- B. Electrical repair & maintenance, overhauling and renovation of all components of 45 no. of Teesta Barrage fabricated structural steel vertical gates, 13 no. of Head Regulator structural MS vertical gates of TMLC (Teesta Mahananda Link Canal) and 4 nos. of Head Regulator structural MS vertical gates of TJMC (Teesta Jaldhaka Main Canal) including power supply & distribution system (AC-DC & Solar Power).

- C. Achieve efficient precise and automated operation and control of all the 62 nos. of Gates for Teesta Barrage, TMLC & TJMC Head Regulators, whether individually or in groups, using state of the art automation system by human machine interface and display, transmit the real time gate positions, water levels, velocity and discharges and other relevant information at the Barrage Control Room (BCR), situated adjoining Teesta Barrage or if required from other stations.. However, it is to be ensured that in case of failure of the new system, the existing old system will remain operative.
- 1.1.4 The estimated cost of the Project (“**Estimated Project Cost**”) assessed by the ‘**Authority**’ on the basis of Feasibility study report has been specified in Clause 1.1.1 above, comprising Assessed Project Cost plus contingency charges. The assessment of actual costs, however, will have to be made by the Bidders.
- 1.1.5 The “**Agreement**” sets forth the detailed terms & conditions for award of the Project to the Contractor, including the scope of the Contractor’s services and obligations.
- 1.1.6 The statements and explanations contained in this RFP are intended to provide a better understanding to the Bidders about the subject matter of this RFP and should not be construed or interpreted as limiting in any way or manner the scope of services and obligations of the Contractor set forth in the Agreement or the Authority’s rights to amend, alter, change, supplement or clarify the scope of work, the Project to be awarded pursuant to this RFP or the terms thereof or herein contained. Consequently, any omissions, conflicts or contradictions in the Bidding Documents, notice inviting RFP including this RFP document are to be noted, interpreted and applied appropriately to give effect to this intent, and no claims on that account shall be entertained by the ‘Authority’.
- 1.1.7 The RFQ inviting authority shall receive Bids in the on-line e-Procurement Portal of the State Government pursuant to the RFQ in accordance with the terms set forth in this RFP and other documents to be provided by the ‘Authority’ pursuant to this RFP, as modified, altered, amended and clarified from time to time by the ‘Authority’ (collectively the “**Bidding Documents**”), and all Bids shall be prepared and submitted in accordance with such terms on or before the bid due date specified in Clause 1.3 for submission of Bids on-line (within “**Bid Due Date**”).
- 1.2 Brief description of the e-bidding process**
- 1.2.1 Superintending Engineer, North Bengal Mechanical & Electrical Circle, Irrigation & Waterways Directorate hereinafter is to be identified as the “**Authority**” has adopted a two-stage techno-commercial e-Procurement bid system of the Government of West Bengal (collectively referred to as the “**Bidding Process**”) for selection of the Bidder for award of the Project. The first stage (the “**Qualification Stage or Technical proposal**”) of the process involves pre-qualification of interested agencies in accordance with the provisions of the Request for Qualification (RFQ). At the end of this stage, the **Authority** would short- list by evaluation suitable pre-qualified applicants who are found eligible by the Departmental Quotation-cum-Bid Evaluation Committee (QBEC) for participation in the second stage of the on-line Bidding Process (the **Bid Stage or the financial proposal**) comprising e-Request for Proposal.
- 1.2.2 In the Bid Stage, the aforesaid short listed Applicants, including their successors; (the “**Bidders**”) would be called upon during decrypting (online opening) of their financial offers (the “**e-Bids**”) in accordance with the terms specified in the Bidding Documents. The **Bid shall be valid** for a period of not less than **120 days** from Bid Due Date.
- 1.2.3 The Bidding Documents includes the e-Notice of RFP or the RFQ, Draft Agreement for the Project. The assessed cost of the project as per Feasibility Report prepared by the Chief Engineer, Teesta Barrage Project and verified by the Departmental Quotation-cum-Bid Evaluation Committee (the “**Feasibility Report**”). Subject to the provisions of Clause 2.1.3, the aforesaid documents and any addenda/corrigenda issued subsequent to this RFP Document will be deemed to form part of the Bidding Documents.
- 1.2.4 A Bidder is required to deposit, along with its Bid, Earnest Money (EMD) of **Rs. 41.00 lakh (Rupees forty One lakh) only (INR)** being (the “**Bid Security**”) equivalent approx. 2% of the Assessed Project cost determined in the Departmental Feasibility Report, refundable not later than 45 (forty five) days from the Bid Due Date, except in the case of the Selected Bidder (L1) whose Bid Security shall be retained till it has provided a Performance Security under the **Agreement**. Payment of Bid Security (also known as EMD) is compulsory for being considered as eligible and valid bid. Intending bidders desiring to participate in the bidding process is required to make payment of Bid Security (Earnest Money- EMD) through transaction in the on-line system of e-procurement/e-tender and should beforehand read the instructions therein carefully, particularly in the

challan generated in the system of e-procurement, if opted for EMD payment through RTGS/NEFT. Bids shall be summarily rejected if it is not accompanied by the Bid- Security (EMD).

1.2.5 During the Bid Stage, Bidders are invited to examine the Project in greater detail, and to carry out, at their cost, such studies as may be required for submitting their respective Bids for award of the Contract and implementation of the Project, and requested to participate in the **“Pre-Bid Conferences”** on Day 5 and again on Day 21 from the Date of Notice of e-RFP or any other date fixed by the Authority.

1.2.6 Bids in the RFP are invited to select the contractors for implementation of the Project on the basis of lowest financial bid (L1) offered on-line by a Bidder the **“Bid Price”**. (Such selected L1 bid price is to be determined on the basis of bids received as a whole and not on the basis of item rates of individual items and subcomponents of the BOQ). The total time allowed for completion of construction under the Agreement (the **“Construction Period”**) and the period during which the Contractor shall be liable for rectification of any defect or deficiency for furnishing successively guarantee and warranty with equipments in the Project, after completion of the Construction Period (the **“Defect Liability Period”**) or the Security Period shall be pre-determined, and are specified in **the Agreement** forming part of the Bidding Documents.

In this e-RFP, the term **“Lowest Bidder” (L1)** shall mean the Bidder who is offering the lowest overall Bid Price.

1.2.7 Generally, the Lowest Bidder shall be the selected Bidder to execute the project as a Rule.

1.2.8 Further and other details of the process to be followed at the Bid Stage and the terms thereof are spelt out in this RFP and EPC-Agreement.

1.2.9 Any queries or request for additional information concerning this e-RFP shall be submitted in writing or by Fax No 0353-2468681, e-mail: [senorthbengal@gmail.com](mailto:senorthbengal@gmail.com) to Superintending Engineer North Bengal Mechanical & Electrical Circle, Teesta Barrage Project, within the period stipulated below. The communications shall clearly bear the following identification/ title:

**“Queries/Request for Additional Information: e-RFP No WBIW/SE/NBMEC/RFP-01(e)/2016-17 , Publishing date 02.02.2017, mentioning on-line ID No of the e-RFP of Superintending Engineer, North Bengal Mechanical & Electrical Circle, Irrigation & Waterways Directorate, Government of West Bengal”** This may further be discussed in the pre-bid meetings/conferences to be held at the Kolkata..

### 1.3 Schedule of e-Bidding Process in the RFP

1.3.1 The Authority shall endeavor to adhere to the following schedule:

Sl. No	Activity	Date & Time	Remarks
1.	e-RFP Publishing Date	2 <sup>nd</sup> February 2017 (Thursday)	
2.	On-line RFP Document Download start date	2 <sup>nd</sup> February 2017 from 17.30 hours	
3.	Two Pre-bid Meetings to be held at the office of Superintending Engineer, North Bengal M&E Circle at Tinbatti Siliguri office.	At Jalasampad Bhavan, NIC Conference Hall, Ground Floor, Salt Lake from 12 Noon on 06.02.2017 and again on 22.02.2017	
4.	e-Bid submission start date	08.02.2017	
5.	Document Download end date & bid submission end date	18.03.2017 upto 16.59 hours (IST)	
6.	e-Bid submission end date	18.03.2017 upto 17.00 hours (IST)	
7.	Technical Bid opening date	20.03.2017 at 17.00 hours (IST)	
8.	Uploading of list of Technically qualified bidders	04.04.2017 after 17.00 hours (IST)	
9.	Financial Bid on-line opening date	06.04.2017 after 17.00 hours (IST)	
10.	Uploading of Financial Bid evaluation sheet	To be decided by TAA	
11.	Uploading of the Letter of Invitation / Acceptance (LOI/LOA) and Award of Contract (AOC)	After administrative approval is accorded by appropriate Government	To be notified to all bidders through e-mail & SMS through auto-generation in the on-line system.

\*BIA: Superintending Engineer, North Bengal Mechanical & Electrical Circle, Irrigation & Waterways Directorate, Government of West Bengal

\*BAA: Chief Engineer, Teesta Barrage Project, Irrigation & Waterways Directorate after obtaining recommendation of QBEC and Govt. appointed Departmental Tender Committee.



## 2. INSTRUCTIONS TO BIDDERS

### A. GENERAL

#### 2.1. General terms of e-Bidding

- 2.1.1 An agency/contractor bidding individually or as a member of a Consortium or any Joint Venture Company shall not be entitled to submit more than one bid against the RFP either individually or as a member of any Consortium or a JV as the case may be.
- 2.1.2 Unless in the context required otherwise, the terms not defined in this RFP, but defined in the e - **Notice of the RFP** (the “**RFQ**”) or the **Agreement document** for the Project shall have the meaning assigned thereto in the RFP.
- 2.1.3 “Assessed Estimated Cost” for the Project is being provided only as a preliminary reference document for Authority’s use. All the Bidders are expected to carry out their own survey, investigations and other detailed examinations before submitting their e-Bids. Nothing contained in the Feasibility Report shall be binding on ‘the Authority’ nor confer any right on the Bidders and ‘The Authority’ shall have no liability whatsoever in relation to it or arising out of any or all contents of the Feasibility Report.
- 2.1.4 Notwithstanding anything to the contrary contained in this RFP, the detailed terms specified in the **Agreement** shall have overriding effect; provided, however, that any condition or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under **the Agreement**.
- 2.1.5 The Bid should be furnished on-line through the e-procurement portal of the State Government referred earlier, clearly indicating the bid amount in both figures and words, in Indian Rupees, digitally signed by the Bidder’s authorized signatory. In the event of any difference between figure and words, the amount indicated in words shall be taken into account.
- 2.1.6 The Bidder shall deposit **on-line ‘Bid Security’** also **identified as Earnest Money Deposit of Rs. 41.00 lakh (Rupees forty one lakh only)** in accordance with the provisions of this e-RFP through on-line system of e-Procurement of the Government of West Bengal. The Bidder has to submit the Earnest Money Deposit (EMD) during submission of online bid only through on-line system in the e-procurement portal as explained in the e-RFP notice.
- 2.1.7 **Performance Security**
- The amount of performance security of the above work is amounting to 7.5% of the contract price or the final value of work actually executed on completion whichever is higher.** At the bidding stage, the bidder will deposit approx 2% of estimated cost (defined earlier) through online system of e-procurement/e-tender (RTGS/NEFT) option as their Bid Security or the EMD. The rest of the amount to make up for overall 7.5% which is more or less 5.5% or the actual amount to achieve 7.5% of bid price will be progressively deducted from the running account/ interim bills of the bidder in the progressive bills up to the completion of work with reference to the contract price of the bid.
- After successful completion of first one full year (Guarantee period) defect liability period, which is defined as initial one year guarantee period, security deposit will be released in such a way for which lump sum amount of Rs.50.00 Lakh would be retained by ‘the Authority’ for next five years of Extended Warranty Period for only the components relating to Automation work with PLC-SCADA. Each year balance security release will be on a pro-rata basis from the Performance Guaranteed sum of 50 Lakh i.e. Rs 10 Lakh to be released per year till it becomes Nil at the end of five year of extended warranty period, if bidder performs satisfactorily as per Agreement.**
- 2.1.8 The Bidder should submit a Power of Attorney as per the format authorizing the signatory of the Bidder.
- 2.1.9 In case the Bidder is a Consortium, the Members thereof should furnish a Power of Attorney in favour of the Lead Member in the prescribed format.
- 2.1.10 Any condition or qualifications or any other stipulations contained in the RFP shall render the Bid liable to rejection as a non-responsive Bid.
- 2.1.11 The Bid and all communications in relation to or concerning the Bidding Documents and the Bid shall be in [English] language.

- 2.1.12 The documents including this R F Q and all attached documents, provided by the Authority shall remain or become the property of the Authority and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The provisions of this Clause 2.1.12 shall also apply mutatis mutandis to Bids and all other documents submitted on-line by the Bidders, and the 'Authority' will not return to the Bidders any offered Bid, bid documents or any information provided along therewith.
- 2.1.13 A Bidder shall not have a conflict of interest (the "**Conflict of Interest**") that affects the on-line e-Bidding Process. Any Bidder found to have a 'Conflict of Interest' shall be disqualified. In the event of disqualification, 'The Authority' shall be entitled to forfeit the Bid Security (or EMD), as the case may be, as mutually agreed genuine pre-estimated loss and damage likely to have been suffered and incurred by 'The Authority' and not by way of penalty for, inter-alia, the time, cost and effort of 'The Authority', including consideration of such Bidder's proposal (the "**Damages**"), without prejudice to any other right or remedy that may be available to 'The Authority' under the Bidding Documents and/ or the Agreement or otherwise. Without limiting the generality of the above, a Bidder shall be deemed to have a "Conflict of Interest" affecting the Bidding Process, if;
- (i) the Bidder, its Member or Associate (or any constituent thereof) and any other Bidder, its Member or any Associate thereof (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding of a Bidder, its Member or an Associate thereof (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its Member or Associate, is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Indian Companies' Act, 1956. For the purposes of this Clause 2.1.13, indirect shareholding held through one or more intermediate persons shall be computed as follows:
    - (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "**Subject Person**") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and
    - (bb) subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26% of the subscribed and paid up equity shareholding of such intermediary; or
  - (ii) Constituent of such Bidder is also a constituent of another Bidder; or
  - (iii) such Bidder, its Member or any Associate thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder, its Member or Associate, or has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder, its Member or any Associate thereof; or
  - (iv) Such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
  - (v) Such Bidder, or any Associate thereof, has a relationship with another Bidder, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each others' information about, or to influence the Bid of either or each other; or
  - (vi) Such Bidder or any Associate thereof has participated as a consultant to 'The Authority' in the preparation of any documents, design or technical specifications of the Project.

Explanation:

For purposes of this RFP, Associate means, in relation to the Bidder/ Consortium Member, a person who controls, is controlled by, or is under the common control with such Bidder/ Consortium Member (the

**“Associate”**). As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, by operation of law.

2.1.14 A Bidder shall be liable for disqualification and forfeiture of Bid Security( Earnest Money) if any legal, financial or technical adviser of the Irrigation & Waterways Department in relation to the Project is engaged by the Bidder, its Members or any Associate thereof, as the case may be, in any manner for matters related to or incidental to such Project during the Bidding Process or subsequent to the (i) issue of the LOA or (ii) execution of the Agreement. In the event any such adviser is engaged by the Selected Bidder or Contractor, as the case may be, after issue of the LOA or execution of the Agreement for matters related or incidental to the Project, then notwithstanding anything to the contrary contained herein or in the LOA or the Agreement and without prejudice to any other right or remedy of the Authority, including the forfeiture and appropriation of the Bid Security or Performance Security, as the case may be, which ‘The Authority’ may have there under or otherwise, the LOA or the Agreement, as the case may be, shall be liable to be terminated without ‘The Authority’ being liable in any manner whatsoever to the Selected Bidder or Contractor for the same. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Bidder, its Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of **RFQ** for the Project. Nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.

2.1.15 This RFP is not transferable.

2.1.16 Any award of the Project work pursuant to this RFP shall be subject to the terms of the Bid Documents.

2.1.17 All other Bid conditions shall include what has been stated in the notice inviting e-RFP.

## **2.2 Change in composition of a Consortium or JV**

2.2.1 Where the Bidder is a Consortium or a JV, **change in composition of the Consortium or JV is not permitted** at any stage after last submission date of online e-bid.

## **2.3 Changes in Ownership**

2.3.1 By submitting the Bid, the Bidder shall be deemed to have acknowledged and agreed that in the event of a change in control of a Consortium Member or an Associate whose Technical Capacity and/ or Financial Capacity was taken into consideration for the purposes of short-listing and pre-qualification under and in accordance with the RFP, the Bidder shall be deemed to have knowledge of the same and shall be required to inform ‘The Authority’ forthwith along with all relevant particulars about the same and ‘The Authority’ may, in its sole discretion, disqualify the Bidder or withdraw the LOA from the selected bidder as the case may be. In the event such change in control occurs after signing of the “Agreement”, it would, notwithstanding anything to the contrary contained in the “Agreement”, be deemed to be a breach of the Agreement, and the same shall be liable to be terminated without ‘The Authority’ being liable in any manner whatsoever to the Contractor. In such an event, notwithstanding anything to the contrary contained in the Agreement, ‘The Authority’ shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to ‘The Authority’ under the Bidding Documents and/ or the Agreement or otherwise.

## **2.4 Cost of Bidding**

The Bidders shall be responsible for all of costs associated with the investigations as a preparation for their Bids and their participation in the e-Bid Process. The ‘Authority’ will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process. However all Bid documents are made available free of cost in the e-Procurement Portal of State Government [www.wbtenders.gov.in](http://www.wbtenders.gov.in).

## **2.5 Site visit and verification of information**

2.5.1 Bidders are encouraged to submit their respective e-Bids after visiting the work site and ascertain for themselves the site conditions, assess difficulties at location, surroundings, climate, availability of power, water and other utilities for construction, access to site, flood discharge records of river and its efforts on

handling and storage of materials, weather reports, applicable laws and regulations, and any other matter considered relevant by them.

- 2.5.2 It shall be deemed that by submitting a electronic Bid, the Bidder has:
- (a) Made a complete and careful examination of the entire Bidding Documents;
  - (b) Received all relevant information requested from the RFP Inviting Authority;
  - (c) accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Documents or furnished by or on behalf of 'The Authority' relating to any of the matter referred to in Clause 2.5.1 above;
  - (d) satisfied itself about all matters, things and information including matters referred to in Clause 2.5.1 hereinabove necessary and required for submitting an informed Bid, execution of the Project in accordance with the Bidding Documents and performance of all of its obligations there under;
  - (e) acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the Bidding Documents or ignorance of any of the matters referred to in Clause 2.5.1 hereinabove shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from 'The Authority', or a ground for termination of the Agreement by the Contractor;
  - (f) Acknowledged that it does not have a Conflict of Interest; and
  - (g) Agreed to be bound by the undertakings provided by it under and in terms hereof.
- 2.5.3 The 'Authority' shall not be made liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP, RFQ, the Bidding Documents or the Bidding Process, including any error or mistake therein or in any information or data given by 'The Authority'.

## 2.6 Verification and disqualification

- 2.6.1 The 'Authority' reserves the right to verify all statements, information and documents submitted by the Bidder in response to the RFQ, the RFP or the Bidding Documents and the Bidder shall, when so required by 'the Authority', make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by 'The Authority' shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of 'The Authority' there under.
- 2.6.2 'The Authority' reserves the right to reject any Bid and forfeit the Bid Security if:
- (a) at any time, a material misrepresentation is made or uncovered, or
  - (b) the Bidder does not provide, within the time specified by the Authority, the supplementary information sought by 'the Authority' or the QBEC for Technical evaluation of the Bid.

Such misrepresentation/ improper response shall lead to the disqualification of the Bidder. If the Bidder is a Consortium or JV, then the entire Consortium or the JV and each Member may be disqualified/ rejected. If such disqualification / rejection occur after the Bids have been opened and the Lowest Bidder gets disqualified / rejected, then 'The Authority' reserves the right to:

- (i) Take action in accordance with Clauses 3.3.3 and 3.3.4; or (Special express permission of appropriate Government is mandatory)
  - (ii) take any such measure as may be deemed fit in the sole discretion of 'The Authority', including annulment of the Bidding Process and black listing of the erring bidder.
- 2.6.3 In case it is found during the evaluation or at any time before signing of **the Agreement** or after its execution and during the period of subsistence thereof that one or more of the pre-qualification conditions have not been met by the Bidder or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Contractor either by issue of the LOA or entering into of the Agreement, and if the Selected Bidder has already been issued the LOA or has entered into the Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by 'The Authority' to the Selected Bidder or the Contractor, as the case may be, without the 'Authority' being liable in any manner whatsoever to the Selected Bidder or Contractor. In such an event, 'The Authority' shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as

the case may be, as Damages, without prejudice to any other right or remedy that may be available to the 'Authority' under the Bidding Documents and/ or the Agreement, or otherwise.

## **B. DOCUMENTS**

### **2.7 Contents of the e-RFP**

2.7.1 This RFP comprises the Disclaimer set forth hereinabove, the contents as listed below, and will additionally include any Addenda issued in accordance with Clause 2.9.

#### **Invitation for e-Bids**

- Section 1. Introduction
- Section 2. Instructions to Bidders
- Section 3. Evaluation of Bids
- Section 4. Fraud and Corrupt Practices
- Section 5. Pre-Bid Conference
- Section 6. Miscellaneous

#### **Appendices**

Power of Attorney and other Formats to be filled up by the bidder duly authenticated and uploaded as pdf, with their e-bids as technical bid documents.

#### **Technical Specifications & Standards**

2.7.2 The **Agreement** and the **Technical Specifications & Standards with Schedules and Appendices** provided by 'The Authority' as part of the Bid Documents shall be deemed to be part of this RFP as contained in the subsequent para.

### **2.8 Clarifications**

2.8.1 Bidders requiring any clarification on the RFP may notify 'the Authority' in writing or by Fax and e-mail in accordance with Clause 1.2.9. They should send in their queries before the date mentioned under Sl. 3 in the Schedule of Bidding Process specified in Clause 1.3. 'The Authority' shall endeavor to respond to the queries within 7 (seven) days prior to the Bid Due Date. The responses will be sent by Fax or e-mail. The Authority will forward all the queries and its responses thereto to all Bidders without identifying the source of query.

2.8.2 The Authority shall endeavor to respond to questions raised or clarifications sought by the Bidders. However, the Authority reserves the right not to respond to any question or provide any clarification, at its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring 'The Authority' to respond to any question or to provide any clarification.

2.8.3 The Authority may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders through "Corrigendum" to be uploaded in the e-procurement platform. All clarifications and interpretations issued by the Authority shall be deemed to be a part of the Bidding Document. Verbal clarifications and information given by 'The Authority' or its employees or representatives shall not in any way or manner be binding on the Authority.

### **2.9 Amendments of e-RFP**

2.9.1 At any time prior to the Bid Due Date, the Authority may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP by issuance of Addenda/Corrigenda.

2.9.2 Any Addendum/Corrigendum issued hereunder will be uploaded in the e-procurement platform in e-RFP Folder.

2.9.3 In order to afford the Bidders a reasonable time for taking an Addendum into account, or for any other reason, the Authority may, in its sole discretion, extend the Bid Due Date\$.

§ While extending the Bid Due Date on account of an addendum, the Authority would have due regard for the time required by Bidders to address the amendments specified therein. In the case of significant amendments, at least 15 (fifteen) days shall be provided between the date of amendment and the Bid Due Date and in the case of minor amendments, at least 7(seven) days shall be provided.

### C. PREPARATION AND SUBMISSION OF e-BIDS.

#### 2.10 Submission of e-Bid

2.10.1 The Bidder shall provide all information sought under this e-RFP. The 'Authority' and the Departmental QBEC will evaluate only those e-Bids that are received on-line in the e-Procurement platform in the required formats completed in all respects.

2.10.2 Bids are to be submitted online only through e-Procurement website as stated in the (e-Notice or) e-RFQ. **All the documents uploaded by the Authority constitute an integral part of the EPC Agreement.** Contractors /Bidders are required to upload the entire set of Bid documents along with other related documents as asked for in the e-RFQ [e-Notice, RFP, EPC Agreement, Corrigenda / Addenda, Drawings, Appendices, Schedules, Scope of work, work programme, specifications & standards, duly completed BOQ etc.]

#### 2.11 Encrypting and digitally signing of e-Bid

2.11.1 The Bidder shall submit their on-line Bids in the e-procurement system as defined in the e-notice of RFP (RFQ).

2.11.2 The technical documents accompanying the Bid shall be first downloaded then filled up, authenticated and completed in all respects and in pdf files to be uploaded on-line, in separate "**folders**" marked as:

- (a) **e-Notice or e-RFQ** as well as all addenda or corrigendum duly authenticated scanned and uploaded as pdf files to be uploaded in '**e-Notice**' folder;
- (b) **Appendices I to VII and Forms 1 to 4** duly authenticated scanned and uploaded as pdf files to be uploaded in '**FORMS AND APPENDICES**' folder;
- (c) Scope of work and Technical Specifications & Standards duly authenticated scanned and uploaded as pdf files to be uploaded in '**SCOPE OF WORK & TECHNICAL SPECIFICATIONS AND STANDARDS**' folder;
- (d) RFP and the EPC Agreement with all Schedules A to Q with each page digitally signed by the bidder in the '**RFP-EPC AGREEMENT**' folder.
- (e) Work Programme provided in CPM Networking Method to be signed and again uploaded in "**WORK PROGRAMME**" folder.
- (f) All drawings downloaded and further drawings to be submitted with bid are to be converted in pdf and uploaded in "**DRAWINGS**" folder.

In addition to above, the Other Important documents(OID) have to be submitted on-line by the bidders in pre-defined technical pre-qual folders viz. '**Certificates**', '**Company details**', '**Work Credentials**', '**Financial Credentials**', '**Manpower & Machineries**', '**Drawings & Documents**' successively through the on-line e-procurement system by converting into PDF files as defined in the e-Notice (RFQ) under clause 4.2(A).

**(\*Every specified document is to be uploaded in above folders which are mandatory. Bid shall be treated as incomplete if any of the folders are unattended or left vacant)**

2.11.3 If the e-bid submitted is erroneous and not as instructed above, the Authority assumes no responsibility for the misplacement or premature decrypting of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.

2.11.4 Bids submitted by Fax, Telex, offline documents or e-mail shall not be entertained and shall be rejected. **No offline document other than those submitted with the online bid would be considered.**

2.11.5 Superintending Engineer, North Bengal Mechanical & Electrical Circle is designated as the '**Authority**' having official e-mail address: **senorthbengal@gmail.com** may answer the queries.

#### 2.12 Bid Due Date

2.12.1 Bids should be submitted on-line before the Bid Due Date through e-procurement system of Government of West Bengal in the manner and form as detailed in this notice of e-RFP.

- 2.12.2 The Authority may at his sole discretion extend the Bid Due Date or decide undertaking any other modifications by issuing an online Addendum/Corrigendum in accordance with Clause 2.9, uniformly applicable for all prospective Bidders through the e-Procurement platform.

**2.13 Late submission of Bid**

In the e-Procurement portal, bids cannot be submitted after the Bid Due date or the last date and time for Bid submission.

**2.14 Contents of the e-Bid (Financial proposal)**

- 2.14.1 The Bid shall be uploaded in the **(on-line) excel sheet** and shall consist of a Bid price to be quoted by the Bidder. The Bidder shall specify (in Indian Rupees) the Bid price offered by him/her to undertake the Project **in accordance with this RFP and in terms of the provisions of the Agreement**. The overall value comprising all items and its sub-components are to be quoted by the bidder and bid offer is based on total amount in INR for total project BOQ.

- 2.14.2 Generally, the project work will be awarded to the Lowest Bidder (L1) in the financial offer.

- 2.14.3 The decrypting/opening of e-Bids and acceptance thereof shall be substantially in accordance with the terms of this e-RFQ/RFP.

- 2.14.4 The uploaded **'EPC-Agreement'** shall be deemed to be part of the Bid document which is to be downloaded signed digitally and uploaded with the bid mandatorily.

**2.15 Modification / Substitution / Withdrawal of Bid**

- 2.15.1 A Bidder may modify, substitute or withdraw its e-Bid after submission, provided that such modification is re-submitted on-line in e-procurement portal prior to Bid Due Date. **No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date.**

- 2.15.2 Any alteration/ modification in the Bid or additional information supplied prior to the Bid Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

**2.16 Rejection of e-Bid**

- 2.16.1 Notwithstanding anything contained in this RFP, the Authority reserves the right to reject any Bid and to annul the Bidding Process and reject all Bids at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons there for. In the event that the Authority rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh on-line Bids (2nd or subsequent re-bids) with modified modalities, eligibility criteria etc.

- 2.16.2 'The Authority' reserves the right not to proceed with the Bidding Process at any time, without notice or liability, and to reject any Bid without assigning any reasons.

**2.17 Validity of Bid**

The Bids shall be valid for a period of not less than **120 (one hundred and twenty) days** from the Bid Due Date. The validity of Bids may be extended by mutual consent of the concerned Bidder and the Authority.

**2.18 Confidentiality**

Information relating to examination, clarification, evaluation and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising 'The Authority' in relation to or matters arising out of, or concerning the Bidding Process. The 'Authority' will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. 'The Authority' may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or 'The Authority' or as may be required by law or in connection with any legal process.

**2.19 Correspondence with the Bidder**

Save and except as provided in this RFP, the Authority shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any Bid.

**D. BID SECURITY**

**2.20 Bid Security**

2.20.1 The Bidder shall furnish as part of its Bid, a Bid Security referred to in Clauses 2.1.6 hereinabove as Earnest Money Deposit only through on-line e-procurement portal through Net Banking or NEFT/RTGS transactions.

2.20.2 Payment of Bid Security also identified as EMD is compulsory for being considered as eligible and valid bid except if specially exempted by the Finance Department, Govt. of West Bengal. Traditional procedure of depositing EMD through off-line instruments like Bank Draft, Pay order, Bank Guarantee, Bankers Cheque etc. has been completely dispensed with for all e-RFP, e-procurements of the State Government, w.e.f 1<sup>st</sup> September, 2016. Intending bidders desiring to make payment of Earnest Money (EMD) have to transaction in the on-line system of e-RFP and should beforehand read the instructions carefully, particularly in the challan generated in the system of e-procurement, if opted for EMD payment through RTGS/NEFT.

2.20.3. Login by bidder:

- a. A bidder desirous of taking part in a e-RFP shall login to the e-Procurement portal of the Government of West Bengal using his/her login ID and password by a valid DSC.
- b. He/she will select the e-tender /RFP to bid and initiate payment of pre-defined EMD for that e-RFP by selecting from either of the following payments modes:
  - i. Net-Banking (any of the banks listed in the ICICI Bank Payment Gateway) in case of payment through ICICI Bank Payment Gateway;
  - ii. RTGS/NEFT in case of off-line payment through bank accounts in any Bank approved by RBI in India.

**2.20.4. Bid Security (EMD) submission procedure:**

- a. Payment by Internet banking (any of the listed banks) only through ICICI Bank Payment Gateway:
  - i. On selection of Internet banking as the payment mode, the bidder will be directed to ICICI Bank Payment Gateway webpage (along with a string containing a Unique ID) where he/she will select the Bank through which he/she wants to do the on-line EMD transaction.
  - ii. Bidders will make the payment after entering his/her Unique ID and password of the bank to process the e-transaction.
  - iii. Bidders will receive a confirmation message regarding success/failure of the transaction.
  - iv. If the transaction is successful, the amount paid by the bidder will get credited in the respective Pooling account of the State Government maintained with the Focal Point Branch of ICICI Bank at R.N Mukherjee Road, Kolkata for collection of EMD against unique codes for identification of the e-RFP Inviting Authority or the 'Authority'.
  - v. If the transaction is failure, the bidder will again try for payment by going back to the first step.
- b. Payment through RTGS/NEFT:
  - i. On selection of RTGS/NEFT as the payment mode, the e-procurement portal will show a pre-filled challan having the details to process RTGS/NEFT transaction.
  - ii. The bidder will print the challan and use the pre-filled information to make RTGS/NEFT payment using his/her own Bank account.
  - iii. Once payment is made, the bank would provide an "**UTR remittance number**" for successful transaction with which the bidder will come back to the e-Procurement portal after expiry of 2 to 3 bank working days to enable the NEFT/RTGS process to complete, in order to verify the payment made and continue with his/her bidding process.
  - iv. If verification is successful, the fund get credited to the respective Pooling account of the State Government maintained with the Focal Point Branch of ICICI Bank at R.N Mukherjee Road, Kolkata for collection of Bid Security (EMD).



- v. Hereafter, the bidder will go to e-Procurement portal for final e-submission of his/her bid within pre-assigned last date of submission of e-RFP.
- vi. If the payment verification is unsuccessful, the amount will be returned automatically by the system to the bidder's bank account.

**Note: Bid Security payment made through RTGS/NEFT would require additional 2 to 3 bank working days after date of physical transaction in the bank before the procedure is completed for enabling the bidder to continue with the bidding process in the on-line e-RFP final bid submission. Thus, the bidder is to take precaution in case of RTGS/NEFT transfers so that the entire process of submission of e-RFP is completed within last date of on-line submission of his/her e-bid. However, Net-banking transaction through ICICI bank by their Net Banking payment Gateway would be on real time basis.**

**2.20.5. Refund/Settlement Process for Bid Security (EMD):**

- i. After opening of his/her bids and technical evaluation of the same by the QBEC through electronic processing in the e-Procurement portal of the State Government, the e-bid inviting authority will declare the status of the bid as successful or unsuccessful which will be made available along with the details of the unsuccessful bidders to ICICI Bank by the e-Procurement portal through web services.
- ii. On receipt of the information from the e-Procurement portal, the Bank will refund through an automated process the Bid Security of the bidders disqualified at the technical evaluation to the respective bidders' bank accounts from which they made the Bid Security on-line transaction. Such refund will take place within T+2 Bank working days where T will mean the date on which information on rejection of bid is uploaded to the e-Procurement portal by the e-bid Inviting Authority.
- iii. Once the financial bid evaluation is electronically processed in the e-Procurement portal, EMD of the technically qualified bidders other than that of the L1 and L2 bidders will be refunded, through an automated process, to the respective bidders' bank accounts from which they made the payment transaction. Such refund will take place within T+2 Bank working days where T will mean the date on which information on rejection of financial bid is uploaded to the e-Procurement portal by the e-bid inviting authority. However, the L2 bidder should not be rejected till the LOI process is successful.
- iv. If the L1 bidder accepts the LOI and the same is processed electronically in the e-Procurement portal, Bid Security of the L2 bidder will be refunded through an automated process, to his/her bank account from which he/she had made the payment transaction. Such refund will take place within T+2 Bank working days where T will mean the date on which information on Award of Contract (AOC) to the L1 bidder is uploaded to the e-Procurement portal by the e-bid Inviting Authority.
- v. As soon as the L1 bidder is awarded the contract (AOC), the same is processed electronically in the e-Procurement portal for transfer to Government Receipt under Public Accounts through IFMS in the GRIPS (Government Receipt Portal System) where under the performance security deposit will also be collected in connection with the work.
- vi. All refunds will be made mandatorily to the Bank account from which the payment of Bid Security were initiated.
- vii. If the RFP is cancelled, then the Bid Security would be reverted to the original bidders account automatically after such cancellation order is affected online by the e-Request for Proposal (e-RFP) Inviting Authority.
- viii. Once the Bid Security of L1 bid gets transferred to the GRIPS of the State Government, the RFP Inviting Authority using his/her e-token and valid DSC shall enter the GRIPS portal to identify the EMD credited against the particular RFP by taking out a hard copy of the credit confirmation containing the GRN No. and forward to the Treasury concerned, the designated Executive Engineer (Engineer-in-Charge) for future raising of refund back after completion of defect liability period (Security Period) or the extended warranty period.

2.20.6 The 'Authority' shall be entitled to forfeit and appropriate the Bid Security as Damages inter alia in any of the events specified in Clause 2.20.7 herein below. The Bidder, by submitting its Bid pursuant to this RFP, shall be deemed to have acknowledged and confirmed that the 'Authority' will suffer loss and damage on account of withdrawal of its Bid or for any other default by the Bidder during the period of Bid validity as specified in this RFP. No relaxation of any kind on Bid Security (EMD) shall be given to any Bidder except what is already notified prior to RFQ.

- 2.20.7 The Bid Security shall be forfeited as Damages without prejudice to any other right or remedy that may be available to the Authority under the Bidding Documents and/or under the Agreement, or otherwise, under the following conditions:
- (a) If a Bidder submits a non-responsive Bid;
  - (b) If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in Clause 4 of this RFP;
  - (c) If a Bidder withdraws its Bid during the period of Bid validity as specified in this RFP and as extended by mutual consent of the respective Bidder(s) and the Authority;
  - (d) In the case of Selected Bidder, if it fails within the specified time limit –
    - (i) to sign and return the duplicate copy of LOA;
    - (ii) to sign the Agreement; or
    - (iii) to furnish the Performance Security within the period prescribed there for in the Agreement; or
  - (e) In case the Selected Bidder, having signed the Agreement, commits any breach thereof prior to furnishing the Performance Security.

### **3. EVALUATION OF e-BIDS**

#### **3.1 Opening and Evaluation of e-Bids**

- 3.1.1 The Authority shall decrypt the e-Bids on the Due Date, at the time specified in Clause 13.4 of RFQ and in the presence of the Bidders who choose to attend.
- 3.1.2 The Quotation cum Bid Evaluation Committee (QBEC) will subsequently examine and evaluate the Bids in accordance with the provisions set out in the clause 13.5 of RFQ.
- 3.1.3 To facilitate evaluation of Bids, the Quotation cum Bid Evaluation Committee (QBEC) may, at its sole discretion, seek clarifications in writing from any Bidder regarding its Bid.

#### **3.2 Tests of responsiveness**

- 3.2.1 Prior to evaluation of Bids, the Authority shall determine whether each Bid is responsive to the requirements of this RFP. A Bid shall be considered responsive only if:
- (a) it is received as per the format at Appendix & Annexure as defined in the RFQ;
  - (b) it is received by the Bid Due Date including any extension thereof pursuant to Clause 2.9.3;
  - (c) it contains all the information (complete in all respects) as requested in this RFP and/or Bidding Documents (in formats same as those specified);
  - (d) it does not contain any condition or qualification; and
  - (e) it is not non-responsive in terms hereof.
- 3.2.2 The Departmental Quotation-cum-Bid Evaluation Committee (QBEC) reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by the Authority in respect of such Bid.

#### **3.3 Selection of Bidder**

- 3.3.1 Subject to the provisions of Clause 2.16.1, the Bidder whose Bid is adjudged as responsive in terms of Clause 3.2.1 and who quotes the lowest price shall be declared as the selected Bidder (the **“Selected Bidder”**). In the event that the QBEC rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh on-line Bids hereunder.
- 3.3.2 In the event that two or more Bidders quote the same bid price (the **“Tie Bidders”**), ‘The Authority’ shall identify the Selected Bidder by online reverse e-auction-cum-Tender, which shall be conducted with prior notice through sms and e-mail to the bidders. No personal interaction and negotiation is permitted.
- 3.3.3 In the event of withdrawal of offer by the Lowest Bidder, or failing to break “Tie bids” even after undertaking reverse e-Auction-cum-Tender, the QBEC shall annul the Bidding Process and invite fresh e-RFP.
- 3.3.4 After selection and obtaining administrative approval of the appropriate Government, a Letter of Award (the **“LOI/LOA”**) shall be issued, in duplicate, by the Chief Engineer, Teesta Barrage Project, Irrigation &

Waterways Directorate to the selected Bidder and the selected Bidder shall, within 15 (fifteen) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Selected Bidder is not received by the stipulated date, 'The Authority' may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Bidder as Damages on account of failure of the Selected Bidder to acknowledge the LOA, and the invite fresh e-RFP (RFQ).

- 3.3.5 After acknowledgement of the LOA as aforesaid by the Selected Bidder, it shall cause the Contractor to execute the Agreement within the period prescribed in Clause 1.3. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the Agreement (which was uploaded with the RFQ).

#### **3.4 Contacts during Bid evaluation**

Bids shall be deemed to be under consideration immediately after they are opened and until such time the Authority makes official intimation of award/ rejection to the Bidders. While the Bids are under consideration, Bidders and/ or their representatives or other interested parties are advised to refrain, save and except as required under the Bidding Documents, from contacting by any means, the Authority and/ or their employees/ representatives on matters related to the Bids under consideration.

#### **4. FRAUD AND CORRUPT PRACTICES**

- 4.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the LOA and during the subsistence of the Agreement. Notwithstanding anything to the contrary contained herein, or in the LOA or the Agreement, the 'Authority' may reject a Bid, withdraw the LOA, or terminate the Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder or Contractor, as the case may be, if it determines that the Bidder or Contractor, as the case may be, has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, the Engineer-in-charge shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to the Authority under the Bidding Documents and/ or the Agreement, or otherwise.
- 4.2 Without prejudice to the rights of the Authority under Clause 4.1 hereinabove and the rights and remedies which the 'Authority' may have under the LOA or the Agreement, or otherwise if a Bidder or Contractor, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, or after the issue of the LOA or the execution of the Agreement, such Bidder or Contractor shall not be eligible to participate in any tender or RFP issued by the 'Authority' during a period of 1(one) year from the date such Bidder or Contractor, as the case may be, is found by the 'Authority' to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.
- 4.3 For the purposes of this Clause 4, the following terms shall have the meaning hereinafter respectively assigned to them:
- (a) "corrupt practice" means
    - (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the 'Authority' who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the Bid Acceptance or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or
    - (ii) save and except as permitted under the Clause 2.1.14 of this RFP, engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical adviser of 'the Authority' in relation to any matter concerning the Project;

- (b) "Fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
- (c) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bidding Process;
- (d) "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by 'The Authority' with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and
- (e) "restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

#### 1. PRE-BID CONFERENCES

- 5.1 Pre-Bid conferences of the Bidders shall be convened at the designated date i.e. Day 5 and again on Day 21 from the date of publication of the notice of RFP, at 14.30 Hours (IST) and in the office of the Superintending Engineer, North Bengal Mechanical & Electrical Circle. Only those authorized persons who have downloaded the online e-RFP documents shall be allowed to participate in the Pre-Bid Conferences. A maximum of four representatives of each Bidder shall be allowed to participate on production of authorization letter from the original Bidder.
- 5.2 During the course of Pre-Bid conference(s), the Bidders will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall endeavor to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive electronic Bidding Process. **However the assessed item rates derived in the Departmental Feasibility Report would not be divulged or Rate Analysis shown at any stage to any bidder or his agent or representative.**

#### 6. MISCELLANEOUS

- 6.1 The Bidding Process shall be governed by, and construed in accordance with, the laws of India within the jurisdiction of Courts at [Kolkata] shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process. Any Dispute which is not resolved amicably by conciliation, as provided in Clause 26.2 of the Agreement, Settlement of Disputes:  
Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions hereinbefore 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 relating to the contracts, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the executions or failure to execute the same, whether arising during the progress of the work, or after the completion or abandonment thereof shall be dealt with as mentioned hereinafter:  
If the contractor considers any work demanded of him/her to be outside the requirements of the Agreement, or disputes any drawing, record or decision given in writing by the Engineer-in-Charge or any matter in connection with or arising out of the Agreement or carrying out of the work to be unacceptable, he/she shall promptly within 15 days request the Chairman of the Departmental Dispute Redressal Committee formed by Government, in writing for written instruction or decision. Thereupon, the Dispute Redressal Committee shall give its written instructions or decision within a period of one month from the date of receipt of the contractor's letter.  
Above provisions will be applicable irrespective of
- 6.2 The Authority in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
  - (a) suspend and / or cancel the Bidding Process and / or amend and / or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
  - (b) consult with any Bidder in order to receive clarification or further information;
  - (c) Retain any information and/ or evidence submitted to the 'Authority' by, on behalf of, and/ or in relation to any Bidder; and/ or
  - (d) Independently verify, disqualify, reject and/ or accept any and all submissions or other information and / or evidence submitted by or on behalf of any Bidder.

- 6.3 It shall be deemed that by submitting the Bid, the Bidder agrees and releases the 'Authority', its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the Bidding Process and waives, to the fullest extent permitted by applicable laws, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- 6.4 The Bidding Documents and RFP are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this RFP, in the event of any conflict between them, the priority shall be in the following order:
- (a) the Bidding Documents ;
  - (b) the RFP.
- i.e. the Bidding Documents at (a) above shall prevail over the RFP at (b) above.

## **Annexure-III**

**(Enclosure to I&WD Notification No. 32-(W)/2016-17 dated 16.11.2016)**

# **EPC**

**(ENGINEERING PROCUREMENT AND CONSTRUCTION)**

# **AGREEMENT**

**OFFICE OF THE SUPERINTENDING ENGINEER  
NORTH BENGAL MECHANICAL & ELECTRICAL CIRCLE  
GOVERNMENT OF WEST BENGAL  
IRRIGATION & WATERWAYS DIRECTORATE**

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Sd/

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## Overview of the framework

Experience suggests that annuity based projects are comparatively expensive, while conventional contracts are prone to time and cost overruns. This Department is often required to execute certain special category of engineering procurement and construction works where rates and in-house expertise is not adequately available enough knowhow of or the latest modern Technology is unavailable. It has, therefore, been decided to adopt the Engineering, Procurement, Construction (EPC) mode of construction predominantly being used in major projects throughout the India in the MORTH, Railways, CPWD & PWD and in the developed countries.

Experience with item rate contract for complex projects has been adverse

Thus need has arisen in Irrigation & Waterways Department to frame a standard guideline for execution of EPC works through invitation of EOI to be followed by e-Request for Proposal by a transparent procedure for selection of bidders considering efficient delivery, technical precossness, and time bound requirement which are the need of the hour. The EOI Inviting authority (Superintending Engineer or the Executive Engineer) shall prepare notice inviting EOI based on the approved standard e-Notice Inviting Bid document (RFQ).

General guidelines for formulating selection procedure of contractors/agencies for implementation of Engineering Procurement & Construction (EPC) works contracts of **special nature** through the e-procurement system comprise two parts:

Firstly, by inviting Expression of Interests (EOI) to be followed by floating on-line '**Request for Proposals**' (RFP) to obtain bids from eligible & prospective interested bidders for execution of works financed out of State Government's resources.

The following four considerations would guide the need for inviting EOI:-

- (a) Absence of approved and verified rates of the work in any Schedule of Rates (SoR) of this Department, other Engineering / works Departments under Union Govt. as well as State Govt. bodies due to unavailability of in-house expertise to arrive at such rates;
- (b) The need for high quality specialist works with efficient delivery mechanism;
- (c) The need for economy and time bound implementation;
- (d) Importance of transparency in the selection process of bidders through the existing e-Procurement System of the State Government;

A modern EPC framework is a pre-requisite for efficient delivery mechanism

### Need for EPC contracts

Experience shows that item rate contracts are prone to excessive time and cost overruns. The reasons for their poor performance include inadequate project preparation and estimation coupled with allocation of construction risks largely to the Government. For these reasons, the item rate mode of contracting has been abandoned in the developed world. The very purpose for inviting an EOI is to identify and accept the specialized technology required for implementation of the project through preparation of a '**Feasibility Report**' containing assessed tentative project cost, terms of reference for framing of document for subsequent Request for Proposal (RFP). On the basis of responses received there from and evaluation done of the bids received, the requirement for preparation of **Feasibility Report** will be short listed for further consideration.

Item rate contracts are outdated

In the second stage, the short-listed agencies in the Eoi along with all other interested bidders not having originally participated in the Eoi may submit (**e-Request for Proposals or RFP**) comprising **Technical and Financial Proposals**. The bidder is required to firstly possess the Technical qualification minimum criteria of the RFQ for being evaluated and determined as eligible for financial bid stage by the Departmental Quotation-cum-Bid Evaluation Committee (QBEC). Details of minimum eligibility and credential criteria for qualification in Request for Qualification (RFQ) are to be provided in the RFP document. The final L1 bidder/ agency shall be selected for execution of work and contract awarded based on financial bids if the L1 bid is within (+-) 5% of the assessed cost in the Feasibility Report.

Based on the EOI evaluation, the “*Feasibility Report*” document would be finalised by the Quotation cum Bid Evaluation Committee (QBEC) set up in the Department for the purpose before proceeding with subsequent step of going for RFP.

The RFP would comprise technical pre-qualification part herein identified as RFQ (Request for Qualification) after which the financial bid will be opened.

Administrative approval and financial sanction from the competent authority in the Irrigation & Waterways Department as stipulated in the West Bengal Financial Rules shall always be required after finalization of bid value obtained through the ‘Request for Proposal’ upon adding 3% contingency charges. If the L1 bid so obtained in the e-RFP is beyond 5% of the assessed project cost, the bidder would be asked to lower down the bid process through reserve e-auction cum tender. Even if after such negotiation with L1 bidder the bid price is higher than 5%, the bid may be accepted by appropriate authority only after obtaining rate analysis from the L1 bidder and subject to its acceptance by the QBEC and the Government Appointed Departmental Tender Committee.

### **Model EPC Agreement**

The drawbacks of item rate contracting can be addressed by adopting the EPC approach that relies on assigning the responsibility for investigations, design and construction to the contractor for a lump sum price determined through competitive bidding. The objective is to ensure implementation of the project to specified standards with a fair degree of certainty relating to costs and time while transferring the construction risks to a private sector contractor.

With a view to enable a transparent, fair and competitive roll out of engineering projects, a model EPC Agreement has been evolved. This Model EPC Agreement incorporates international best practices and provides a sound contractual framework that specifies the allocation of risks and rewards, equity of obligations between Government and the Contractor, precision and predictability of costs, force majeure, termination and dispute resolution, apart from transparent and fair procedures.

The Model EPC Agreement incorporates best practices

The Model EPC Agreement specifies the required design and performance standards and allows the Contractor to plan, programme design and construct the project using best practices and innovation to optimize on efficiency and economy as compared to the rigidity of the item rate contract that relies on a single design provided by the Government. The Contractor also has full freedom to plan the construction schedule for efficient use of its manpower, equipment and other resources while payments are linked to specified stages of construction as compared to payment for individual items/ units under the item rate contracts. Awarding contract for a lump sum price ensures predictability and financial discipline, both for the contractor and the Government. Moreover, clearly stated obligations and risks of the respective parties help in achieving timely completion of the project while minimizing disputes.

### **Technical parameters**

Unlike the normal practice of focusing on construction specifications, the technical parameters proposed in the Agreement are based mainly on output specifications. Only the core requirements of design, construction, operation and maintenance of the Project that have a bearing on the quality and safety of assets are to be specified and enough room would be left for the contractor to innovate and add value.

Technical Parameters based on output specifications

In sum, the framework focuses on the ‘what’ rather than the ‘how’ in relation to the asset to be delivered by the contractor. This would provide the requisite flexibility to the contractor in evolving and adopting innovative designs without compromising on the quality of service for users.

### **Contract Price**

The Contract Price is a fixed lump sum amount for construction of the Project. For maintenance during defect liability period of five years, the contractor will bid in his offer of the Contract Price for the second, third, fourth and fifth year of maintenance contract to be L1 during RFP in the financial bid in the e-procurement.

Contract price to be lump sum

### Contract period

The contract period is normally determined on a project-specific basis depending on the volume of construction work involved. However, the Agreement provides the flexibility of including the maintenance of the Project in the scope of the project. **A five-year defect liability maintenance period is considered appropriate for only specific project sub-components.** The Contractor shall carry out routine operation and maintenance, warranty for all types of sub components of the Project, safety & security including prompt repairs during the entire maintenance period. The Agreement lays down quantifiable maintenance requirements and performance standards. A mechanism for dealing with the non-performance of maintenance obligations by the Contractor has been provided in the Agreement

Contract period to include Maintenance and Defect liability period after project completion

### Selection of contractor

Selection of the contractor will be based on open competitive bidding through e-Procurement System of the State Government. All project parameters such as the contract period, price adjustments and technical parameters are to be clearly stated upfront, and short-listed bidders will be required to specify only the lump sum price for the Project. The bidder who seeks the lowest payment should win the contract.

Comparative bidding on single parameter will be the norm

### Risk allocation

As an underlying principle, risks have been allocated to the parties that are best suited to manage them. Project risks have, therefore, been assigned to the private sector to the extent it is capable of managing them. The transfer of such risks and responsibilities to the private sector would increase the scope of innovation leading to efficiencies in costs and services.

Risk alleviation and mitigation is critical to engagement with private sector

Projects risks such as effective defect free functioning of the system for long periods and technical risks relating to design, construction and maintenance have been assigned to the Contractor. The Government accepts its liability to suitable compensate the Contractor for any long undue delays in handing over the RoW, other statutory clearances and shifting of utilities.

### Design and Construction /commissioning

The EPC agreement specifies the dates on which different sections of the Project land/Rights of Way will be handed over to the Contractor. It defines the scope of the Project with precision and predictability to enable the Contractor to determine its costs and obligations. It also lays down a ceiling of 5% of contract price to cater for any changes in the scope of project, the cost of which the Government will bear, with prior permissive of Finance Department, Government of West Bengal, the appropriate Government.

Incentives and penalties to ensure timely completion and maintenance

The Contractor shall carry out survey and investigations and also develop designs of software and drawings in conformity with the specifications and standards laid down in the Agreement. Departmental engineers shall review the design and drawings to ensure that these conform to the scope of the project, design standards and specifications. The EPC agreement also stipulates provisions for quality control and assurance and implementation of the project in a time bound manner with precise planning through Networking.

A provision has been made for damages which the Contractor shall pay to Government for not achieving the prescribed physical milestones, which being the essence of the agreement.

### Maintenance during Defect liability Defect Liability Period

The Agreement provides performance based standards for the maintenance of the project. The Contract Price is a fixed lump sum amount for construction of the Project. For maintenance, the contractor will get from the end of first year for the second, third, fourth, fifth and sixth years for which the rates would be included in Bid Price separately in the e-procurement. **A five-year defect liability maintenance period is considered appropriate for only specific project sub-component.** The Contractor shall carry out routine operation and maintenance, warranty for all types of sub

Maintenance standards will be strictly enforced

components of the Project, safety & security against theft and pilferage including prompt repairs during the entire maintenance period.

Maintenance work during defect liability period performance is to be inspected for evaluation by the Engineer-in-charge once every month, and deductions made for failure or defects in operation, security and maintenance.

### **Force Majeure**

The EPC agreement contains the requisite provisions for dealing with force majeure events. In particular, it provides protection to the Contractor against political actions that may have adverse effect on timely completion of the project.

Contractors will be protected against arbitrary actions

### **Termination**

Termination payments have been quantified precisely. Political force majeure and defaults by the Authority are proposed to qualify for adequate compensatory payments to the contractor and thus guard against any discriminatory or arbitrary action by the Government. In the event the Government terminates the agreement on account of any of the specified default of the Contractor, the Agreement allows the Government to forfeit the performance security and retention money of the Contractor.

Pre-determined termination payments should provide predictability

### **Monitoring and supervision**

Day-to-day interaction between the Authority and the contractor has been kept to the bare minimum following a 'hands-off' approach. Checks and balances have, however, been provided to ensure full accountability of the Contractor.

A credible and fair arrangement for supervision is essential

Monitoring and supervision of construction and maintenance of the project is proposed to be undertaken by the Executive Engineer, Assistant Engineer, and Junior Engineer engaged by the Department.

### **Milestone based payments**

A simple and rational method for estimating interim running account payment to the Contractor has been provided in the Agreement. It ensures that R/A payments are made for works conforming to the Agreement and commensurate with the stages of completion of works. Works have been divided into sub-components and maintenance contract after one year Defects Liability period. Each item of work has been further sub-divided into stages and payment will be made for each completed stage of work certified by the Engineer-in-Charge.

### **Defect liability period**

Though initially after completion of work a defects liability period of one year (12 months) is specified in the Agreement, an extended Defect liability Defects Liability Period of ..... years has been specified in the Agreement in order to provide additional comfort to the Government.

### **Miscellaneous**

The Agreement also addresses issues relating to Dispute Resolution, suspension of rights, and Change in Law, Insurance and Indemnity.

An effective dispute resolution mechanism is critical

### **Conclusion**

Together with the Schedule, the proposed framework of the Model EPC Agreement incorporates international best practices and embodies an enabling contractual framework in an efficient, economical and competitive environment. It will minimize, if not eliminate, the time and cost over-runs, characteristic of the extant item rate contract. Further, this will enable a faster roll-out of the project with least cost and greater efficiency while minimizing the potential for unguided discretion that is synonymous with malpractices.



# Part I

## Preliminary

## ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT

THIS AGREEMENT is entered into on this the ..... day of ....., 20.....

BETWEEN The Governor of the State of West Bengal acting through the Superintending Engineer, North Bengal Mechanical & Electrical Circle, Irrigation & Waterways Directorate having his registered as Office of the Superintending Engineer, North Bengal Mechanical & Electrical Circle, Teesta Barrage Project, Irrigation & Waterways Directorate, Teesta Administrative Building, Tinbatti, Siliguri, West Bengal, Phone No 0353-2468681, Fax No 0353-2468681, e-mail: senorthbengal@gmail.com

(hereinafter referred to as the “**Authority**” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) **of One Part;**

### AND

{.....}, means the selected bidder having its registered office at.....

....., (hereinafter referred to as the “**Contractor**” which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) **of the Other Part;**

### WHEREAS

- (A) The Government of West Bengal in the Irrigation & Waterways Department has entrusted “the Authority” which inter alia is the Teesta Barrage Project Authority headed by the Chief Engineer, Teesta Barrage Project, Irrigation & Waterways Directorate directly and solely under administrative control of Government in the State of West Bengal., West Bengal.
- (B) The Authority had resolved to implement the Project “**Remote monitoring and control** of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal”.”, (Commissioning, Operation, Training and Defect liability Maintenance, Extended Warranty under Irrigation & Waterways Department, Government of West Bengal”, hereinafter called the ‘**Project**’ in West Bengal by Engineering, Procurement, Construction (“EPC”) contract basis in accordance with the terms & conditions to be set forth in an agreement to be entered into.
- (C) The Authority had accordingly invited through electronic Procurement System RFP prescribing the technical and commercial terms and conditions, and invited bids by its Request for Qualification-c u m- Request for Proposal. e-RFP No.\*\*\*\*\* OF 2016-17 \*\*\* dated \*\*\*\*\* .  
The first stage it invites “Request For Qualification (RFQ)-cum-Request For Proposal (RFP)”stage is for short listing of bidders for EPC of the above referred section of ‘**Project**’ on specified technical terms.
- (D) The second stage is invites “Request For Qualification (RFQ)-cum -Request For Proposal (RFP)” stage is for selection of the “lowest financial proposal” from the bidders shortlisted pursuant to the RFQ stage for undertaking the Project.
- (E) After evaluation of the bids received, the Authority had accepted the bid of the selected bidder and issued its Letter of Acceptance bearing Ref. No. .... dated, ..... (hereinafter called the “LOA”) to the selected L 1 bidder of the above section of ‘**Project**’ at the contract price specified hereinafter, requiring the selected bidder to inter alia:
  - (i) deliver to the Authority a legal opinion from the legal counsel of the selected bidder with respect to the authority of the selected bidder to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) days of the date of issue of LOA; and
  - (ii) Execute this Agreement within 15 (fifteen) days of the date of issue of LOA.
- (F) The Contractor has fulfilled the requirements specified in Recital (E) above;

**NOW THEREFORE** in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby acknowledged, the Authority upon successful completion of the Project Milestones and full completion of the project as per Agreement hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the Agreement at the times and in the manner specified by the Agreement and intending to be legally bound here by, the parties agree as follows:

## ARTICLE 1

### DEFINITIONS AND INTERPRETATION

#### 1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 27) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

#### 1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- (a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- (b) references to laws of India or Indian Law or Regulation having the force of Law shall include the Laws, Acts, Ordinances, Rules, Regulations, Bye laws or Notifications which have the force of Law in the State of West Bengal and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- (c) references to a "person" and words denoting a natural person shall be construed as a reference to any Individual, Firm, Company, Corporation, Society, Trust, Government, State or Agency of a State or any Association or Partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- (d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) the words "include" and "including" are to be construed without limitation and shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;
- (f) references to "construction" or "implementation" include, unless the context otherwise requires, survey and investigation, design & developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Project, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and "construct" or "build" shall be construed accordingly;
- (g) references to "development" include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up- gradation and other activities incidental thereto during the Construction Period, and "develop" shall be construed accordingly;
- (h) any reference to any period of time shall mean a reference to that according to Indian standard time;
- (i) any reference to day shall mean a reference to a calendar day;
- (j) references to a "business day" shall be construed as a reference to a day (other than a Sunday) on which banks in Kolkata are generally open for business;
- (k) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (l) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- (m) any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;

- (n) the words importing singular shall include plural and vice versa;
  - (o) references to any gender shall include the other and the neutral gender;
  - (p) "lakh" means a hundred thousand (100,000) and "crore" means ten million (10,000,000);
  - (q) "indebtedness" shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
  - (r) references to the "winding-up", "dissolution", "insolvency", or "re-organization" of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors;
  - (s) save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Clause shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;
  - (t) any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Engineer-in-Charge shall be valid and effective only if it is in writing under the hand of a duly authorised representative of such Party or the Engineer-in-Charge, as the case may be, in this behalf and not otherwise;
  - (u) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
  - (v) references to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement, and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears;
  - (w) the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "Damages"); and
  - (x) time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.
- 1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in four copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain three copies thereof.
- 1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.
- 1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.
- 1.3 Measurements and arithmetic conventions
- All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.
- 1.4 Priority of agreements and errors/discrepancies

- 1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:
- (a) this Agreement; and
  - (b) all other agreements and documents forming part hereof or referred to herein; i.e. this Agreement at (a) above shall prevail over the agreements and documents at (b).
- 1.4.2 Subject to the provisions of Clause 1.4.1, in case of ambiguities or discrepancies within this Agreement, the following shall apply:
- (a) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
  - (b) between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
  - (c) between any two Schedules, the Schedule relevant to the issue shall prevail;
  - (d) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
  - (e) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
  - (f) between any value written in numerals and that in words, the latter shall prevail.

{1.5 Joint and several liabilities

- 1.5.1 If the Contractor has formed a Consortium of two or more persons for implementing the Project:
- (a) these persons shall, without prejudice to the provisions of this Agreement, be deemed to be jointly and severally liable to the Authority for the performance of the Agreement; and
  - (b) the Contractor shall ensure that no change in the composition of the Consortium is effected without the prior consent of the Authority.
- 1.5.2 Without prejudice to the joint and several liability of all the members of the Consortium, the Lead Member shall represent all the members of the Consortium and shall at all times be liable and responsible for discharging the functions and obligations of the Contractor. The Contractor shall ensure that each member of the Consortium shall be bound by any decision, communication, notice, action or inaction of the Lead Member on any matter related to this Agreement and the Authority shall be entitled to rely upon any such action, decision or communication of the Lead Member. The Authority shall have the right to release payments solely to the Lead Member and shall not in any manner be responsible or liable for the inter se allocation of payments among members of the Consortium.} <sup>§</sup>

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<sup>§</sup> This Clause 1.5 may be omitted if the Contractor is not a Consortium. Even if the Contractor is a Consortium, the Authority may, at its discretion, delete this provision.

## Part II

# Scope of Project

## ARTICLE 2

### SCOPE OF THE PROJECT

#### 2.1 Purpose of the Project:

- A. Remote monitoring and control** of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal.”

A real-time, computer-based SCADA system and a state-of-the art communication network shall provide remote and automatic control operation of the gates, for their logical, reliable and precise operations

- B. Safety, Security, Operation, Training & Maintenance** of entire Automation system within initial defect liability guarantee period of 12 months from date of commissioning which is to be continued for a further five years as extended warranty of automation equipments and installations including operation & maintenance and security.

The concept of implementation on which the present technical specifications and special conditions are based intends to combine the advantages of modern data collection platform, data storage, processing and data communication technologies with the requirements of high availability and sustainability. Preference will be given to robust, reliable technology. Data collection sites may be located in remote areas and shall require annual maintenance only, so the selection of equipment and civil design shall consider this aspect. The cost of servicing a real time data network shall exceed the cost of the purchase several times over the life of the network. It is, therefore, of central importance to the Authority that the network will have the greatest possible reliability, thus minimizing the maintenance to the extent possible. Special protection against environmental factors is often justifiable, even at high initial costs.

#### 3.2 Background:

Teesta barrage structure is located at village Gazoldoba across river Teesta at 9.6 mile (15.5 km) downstream of Sevoke Railway bridge, under Block & P.S Mal on the left bank and Block & PS Rajganj in District Jalpaiguri, in the State of West Bengal. (Latitude: 26°45'7.34"N, Longitude: 88°35'13.44"E)

River Teesta originates from a Himalayan glacier in the neighboring State of Sikkim which flows for about 138 km through a narrow gorge and then passes through further 171 km in the plains crosses international border to meet the river Brahmaputra in the district of Rangpur in Bangladesh.

Teesta Barrage Project (Phase-I) initially proposed creation of irrigation potential of 922 Th.Ha benefitting the five districts of Jalpaiguri, Alipurduar, Coochbehar, Darjeeling, Uttar Dinajpur along with power generation of 67.5 MW from canal falls, and also providing drinking water. Around 200 Thousand Ha irrigation potential has already been created.

The Teesta Barrage main weir structure under Teesta Barrage Project Authority of Irrigation & Waterways Department was constructed in the year of 1984. M/S Hindustan Construction Company executed the civil works of the main Barrage portion and M/S Jessop & Co.Ltd. constructed the barrage proper, head regulator gates on both right as well as left ends, which have been made operational since 1985.

#### 3.3 Teesta Barrage technical features:

Teesta Barrage has following components:

1. Spill way bays:-
  - (a) No of bays:- 33
  - (b) Width of each bay:- 18.25 M
  - (c) Crest Level:- RL+110.35 M (G.T.S)
  - (d) Super flood level- RL+116.30M (G.T.S)
  - (e) Designed flood discharge:- 20,100 Cumec
  - (f) Height of each vertical gate:- 5.50 M
2. Under sluice bays without silt excluder:-
  - (a) No of bays:- 8

- (b) Width of each bay:- 18.25 M
  - (c) Crest Level:- RL+109.00 M (G.T.S)
  - (d) Height of each vertical gate:- 6.85 M
3. Under sluice bays with silt excluders :-
- (a) No of bays:- 4
  - (b) Width of each bay:- 18.25 M
  - (c) Crest level of the top of the tunnel:- RL+110.825 M (G.T.S)
  - (d) Height of the vertical gate :- 6.85 M
4. Silt excluder tunnels:-
- (a) No of tunnels per bay:- 6
  - (b) Opening size of each tunnel: 2.50 M (wide) x 2.05 M (height)
  - (c) Floor level of the tunnel:- RL+109.00 M ( G.T.S)

**Details of right bank main canal (Teesta Mahananda Link Canal Head Regulator)**

Crest Level: RL+111.25m  
Width of each vent: 6.1m x 4.55m  
No. of vents: 13  
F.S.L.: 114.00m  
B.L.: 110.114m  
Design discharge: approx. 300.00 cumecs  
F.S.D.: 3.886m

**Details of left bank main canal (Teesta Jaldhaka Main Canal Head Regulator)**

Crest Level: RL +111.25m  
Width of each vent: 6.1m  
No. of vents: 4  
F.S.L.: 113.90m  
B.L.: 110.20m  
Design discharge: approx. 84.29 cumecs

**Barrage Bridge**

Length: 924m  
Width of roadway: 7.3m  
Footpath on both sides: 1.5m  
Top level of road: 119.60m

Capacity of Gantry crane: 20 MT  
Capacity of Monorail crane: 4 MT  
Lifting speed of gate: 0.3m/min

As per **Teesta Barrage Operation Manual** (To be modified by the Teesta Barrage Project Authority in due course), for passing river discharge above 2125 cumec, the entire spillway and under sluice gates will be opened fully. For discharge below 2125 cumec the following principles will govern operating of Teesta barrage gates:

- 1 At very low discharge, the all the barrage gates will be closed to keep the pond level at RL-114.30 M, to maintain required supply in the off-taking canals, TMLC and TJMC.
- 2 With the increase in discharge, first the silt excluder tunnels will be opened to pass on surplus water beyond the requirement of the canals.
- 3 As the discharge increases the spillway gates and the under sluice gates are opened gradually to pass on the surplus water beyond the canal requirements.
- 4 When the discharge reaches 2125 Cumec all the barrage gates will be fully opened.
- 5 For partial opening all the gates are operated simultaneously.
- 6 The operation of spill way and under sluice gates are to follow the pattern required to guide the downstream out flow to act for river training purpose.

The rating curves of the following for different water levels on the upstream side and for different gate openings are furnished in the operation Manual of Teesta Barrage (To be modified by the Teesta Barrage Project Authority in due course)

- (a) For Head Regulators.
- (b) For Spillways
- (c) For Under Sluice gates without Silt Excluder
- (d) For Under Sluice gates with Silt Excluder
- (e) For Silt excluder tunnels



Teesta barrage gates are operated 24 X 7 for 365 days with critical operations required to manage flood season, feeding of irrigation canals on both banks by diversion of discharge through Teesta Jaldhaka Main Canal and Teesta Mahananda Link Canal for Irrigation, Hydel Power generation and drinking water supply through TMLC. The operation of barrage gates have assumed a critical proportion after construction of a series of NHPC Teesta Hydel project Low dams on the upper reaches resulting in wide fluctuation in inflow over short intervals. The river outflow release data provided by NHPC at TLDP-IV is to be integrated with the Master Controller server for display in monitor on real time basis through GPS/GPRS communication.

45 no. of vertical main Gates of Teesta Barrage, 13 no. of Head Regulator Gates of Teesta Mahananda Link Canal (TMLC) and 4 no. Head Regulator Gates of Teesta Jaldhaka Main Canal (TJMC) are at present operated electrically with rope drum hoist system with added provisions for operating manually by lever handles through chain sprocket mechanism as and when required.

With the advent of modern technology, time is ripe to upgrade the operational methodology of this strategically located Teesta Barrage, which may be utilized to regulate sharing of Teesta Water through sophisticated and precise automated operation and control system of downstream barrage outflow as well as suitably divert discharge of river through Head Regulator gates of Teesta Jaldhaka Main Canal (TJMC) & Teesta Mahananda Link Canal (TMLC) for irrigation, hydel power generation and drinking water usage.

Thus considering the hazards of manual operation of about 1 km long barrage, it is proposed that the Teesta Barrage gates be operated through **Supervisory Control and Data Acquisition** (SCADA) system by **Programmable Logic Controller** (PLC) from adjoining **Teesta Barrage control room (BCR)** already existing (To be upgraded into SCADA-PLC-BCR) on right end of Barrage bridge to ensure correct, precise and scientific operation on a real time basis and successfully meet all ends.

### 3.4 Broad objectives of the project:

- A. The implementation concept of the specifications is primarily to seize advantage of the advancements made in modern technologies of data processing, flow measurement techniques, information management, data storage, communication and telemetry with the operational requirements of Teesta Barrage and head regulators. The automation is to develop ability to detect extreme situations, faster access to data and response time, consistency and objectiveness in measurement, and ability to perform automatic quality monitoring. Preference shall primarily be given to robust and reliable established technology suitable and sustainable against vagaries of nature. It is of central importance that the data acquisition network has the greatest possible reliability and maintainability. Special protection against environmental factors is required.
- B. Mechanical and electrical maintenance renovation and repair of all 45 no. of Teesta Barrage fabricated structural steel vertical gates, 13 no. of Head Regulator structural steel gates of TMLC (Teesta Mahananda Link Canal) and 4 nos. of Head Regulator structural steel gates of Teesta Jaldhaka Main Canal, including structural steel gantry cranes and stop log Gate/s .
- C. Efficient operation and monitoring of all the 62 nos. of Gates for Teesta Barrage, TMLC & TJMC Head Regulators, whether individually or in groups, using state of the art automation system viz. SCADA, PLC, ARMAC etc. along with display of the real time gate positions, water levels and discharges and other relevant information at the Barrage Control Room (BCR), situated adjacent to the Barrage and monitoring from other stations. The transition from manual to remote control system can lead to a discontinuity in the measurement record if the process is not specified and managed carefully. Therefore, it is to be ensured that in case of failure of the new system, the existing old system shall remain operative.
- D. Each field data collection mode will measure and transmit data to the Barrage Control Room (BCR) every 15 minutes. BCR shall collect the field data and store it after quality controls. There shall be instantaneous indication of discharge through gate openings (Barrage & offtake canals Head Regulator gates), through appropriate hydraulic gate discharge equations.
- E. Display of gate opening positions of all 62 no. of gates, in absolute amount (in metres) and in percentage terms, upstream and downstream water levels and silt content levels of river water at locations according to (C) and total discharge through Barrage and TMLC on computer screen as well as on atleast 110" LED screen monitors display units at the Barrage Control Room (BCR). The actuators can be controlled manually or remotely from the BCR through the PLC based control panel. Status of gate opening is to be displayed on computer as well as 110" LED screen monitors display unit simultaneously with suitable colour indicators at Master Controller Server at BCR and two other Monitoring Stations. Three (3) nos. station switches are also to be displayed for movements of gates, such as RAISE,

LOWER or STOP with distinct night vision colours. There should be provision for computer text printing facility for generation of reports for all three (3) stations.

- F. As gate unit apparatus are to be connected to the BCR through cable network, the design of cable network should involve minimum cable contents; i.e the local control panel may club a group of gates for operation. Gate mounted end of travel limit switches shall be installed to provide contact closure on reaching gate fully open and gate fully closed positions. Switches at the fully open and fully closed positions shall be used to check the gate position measurement and to force correct indication when the gate is in the fully open and fully closed positions.
- G. Transmission of the same contents of the Display Unit at BCR are to be displayed on 110" LED screen-monitor display unit as per specification at other two dedicated Monitoring Control Rooms at Jalpaiguri (Central Flood Control Room) and at Siliguri (office of Chief Engineer, Teesta Barrage Project) through INSAT/VSAT, to be used for monitoring purposes. Actual Operation of Teesta barrage and both TMLC and TJMC head regulator gates are to be controlled, monitored, operated from Master Controller Server at the BCR at Gazoldoba on Teesta Barrage. Currently the manual operations are conducted solely from Control Room at Gazoldoba.
- H. The application of INSAT Tele-metering and Supervisory Control (Owned by ISRO Govt of India) communication collection system is a key component in the sustainability of the SCADA network. The use of INSAT communication will provide for the transmission of data from anywhere in the area, including areas where other means of telemetry, such as mobile phone networks, would not be otherwise available. The equipment and conditions for installation of the telemetry system in the Teesta Barrage Project, including INSAT by the contractor shall include the design, manufacture, factory testing, deliver to site, installation (including the associated interface wiring/termination), commissioning and site acceptance testing, supply of mandatory spares, training and documentation. PLC based control panels, monitoring system hardware and software shall interface and be fully integrated and tested with the INSAT based communication network, to be provided and established. The functional requirements are given in respect of each major component of the system. The contractor shall ensure that the fundamental requirements stated in this document are not compromised in any manner, whatsoever. Unlicensed wireless communication devices are required to be certified for use in India by the competent authority.
- I. Installation, commissioning of four PTZ Night vision Cameras with NVR GW Security 16CH independent PoE 5MP NVR 4TB Network at suitable points to view the entire Teesta Barrage and both end Head Regulator gates and connected with other two monitoring stations at Siliguri and Jalpaiguri through INSAT/VSAT.
- J. **SYSTEM INTEGRATION:** The bidder shall design, manufacture including make necessary purchases, install and complete the fully functional facilities in accordance with the EPC contract. On completion, the facilities should be entirely retrofitting for the purpose for which they are intended, as defined in the EPC-Agreement.

It may be noted that system integration shall necessitate integration of hardware and software, system of 62 gates and related operational accessories, measuring instruments, SCADA system, their remote monitoring and control. Contractor shall execute system integration for operations of Teesta Barrage Project, which necessitate integration of all supplied computers and peripherals, hardware and software, communication networks, measuring instruments, interfacing SCADA, databases/historian, operational computational models, remote control, monitoring etc. The contractor shall have to accomplish all network requirements to ensure total compatibility, integration-ability, inter-change-ability and inter-operation-ability for various equipments and services for whole network installed.

The contractor shall submit detailed system integration configuration diagrams. The contractor shall specify system integration tests proposed to be carried out as a part of the technical bid submitted. The tests shall be such that the performance of the system as a whole commencing from the sensors and extending to the complete SCADA integration gets involved in the test plan. The System integration tests shall be carried out after completion of factory acceptance of the individual component. All those components that do not pass the system integration tests and undergo modifications shall be passed again through factory acceptance testing before using them for repeat system integrating tests.

- K. **System Redundancy:** All field PLCs/RTUs will send the data through wireless communication or otherwise to a centralized Main SCADA server at Barrage Control Room (BCR). High availability system with appropriate redundancy provisions for critical components like, communication networks, I/O servers, Historians, RAID drives, application softwares shall ensure minimum down time. It is proposed to have two such servers with redundancy so as to have uninterrupted operation in case of failures of hardware and/or software. This station will have an engineering workstation for entire SCADA system.

The redundancy arrangements in hardware and software shall ensure that entire Teesta Automation computing and communication systems operate smoothly and uninterruptedly during and after the occurrence of any disaster. Redundancy in hardware and software shall be applied so as to simultaneously address two aspects of disaster

preparation – i.e. proactive prevention and reactive recovery. Before a disaster occurs, redundant components can mitigate the potential risks by working as backup facilities and thus preventing the disastrous consequences in advance. After the occurrence of a disaster, Project operations can be quickly restore functions and processes back to normal by substituting redundant components for the primary but disabled parts while they are being repaired and restored. A disaster recovery plan with internal control and security that focuses on quick restoration of critical processes when there are operational failures due to natural or man-made shall be laid in consultation with Engineer-in-charge before completion of project.

- L. Maintenance shall be an integral part of system that has the challenges of unattended operation in remote, exposed areas. The corrective maintenance will be required for data collection issues, whether they may be component failures or due to environmental issues. The preventative maintenance is required for all system components as well as the infrastructure in place to house the electronic data collection components.
- M. Data communication should be through INSAT under ISRO based on the crucial nature of the data. In case of temporary outage, the GSM/GPRS communication system would become operative, so that in any eventuality no data is lost. The contractor will be responsible for making all licensing arrangements for the sites requiring INSAT/GSM/GPRS. The Technical Specifications consist of the installation of the real time data acquisition system. This may include an INSAT station, which shall be able to receive data from appropriate Indian satellite. This shall include the design, manufacture, factory testing, deliver to site, installation (including the associated interface wiring/termination), commissioning and site acceptance testing, supply of mandatory spares, training and documentation. Data Collection Platforms (DCP), monitoring system hardware and software shall interface and be fully integrated and tested with the new INSAT Master station to be provided and established. The Ground Station Antenna to receive earth observation products of rainfall and climate with allied equipment and relevant software needs to be installed at BCR.
- N. **Telemetry**-The data communications employed on SCADA network will use a combination of INSAT communication and GSM/GPRS radio communications. INSAT satellite communications will be placed at all sites for real time data communication with backup communication from GSM/GPRS. All stations have had in in-situ radio path survey, where a mobile phone signal was detected, and/or a line-of-sight path to the INSAT confirmed. It will be the responsibility of the contractor to confirm radio path and mobile network coverage. The recommended data communication technology is finalized tentatively. Telecommunications and data collection platforms can be expensive combining sensors from measurement points into single data collection platforms and radio transmitter to reduce the cost of the network is the key.
- P. **River Water Level (stage) and River Discharge Stations** - This data collection stations that will measure river stage and transmit this data to data center BCR, as case may be. These stations will use INSAT data communication and simultaneously use by GSM/GPRS data communications. The contractor will provide all civil works for these stations, including a gauge house to protect the equipments from theft as well as environmental effects such as insect/rodent infestations or water intrusion. The water level measurement technology will either be made from a bubbler system, radar sensor or a stilling well/float encoder principal. River Water level recording stations will require a gauge house, defined as a suitable building/gauge house to provide the protection of the equipments from both the environment and tampering.
- Q. **Teesta barrage Water Level and Outflow Discharge Stations** - This category describes data collection stations that will measure barrage pond water elevation and transmit this data to BCR. The Contractor will provide all civil works for these stations, including a Gauge House to protect the equipments from theft as well as environmental effects such as insect/rodent infestations or water intrusion. The water level measurement technology will be a Radar system non-contact type. The data of barrage gates, TLMC and TJMC canal water level and discharge flow measurement sensor need to be combined together if possible and common data collection point and communication system may be used.
- R. **Measurements of Teesta Barrage Gate Opening** – Here the sensors placed on gates of barrage and canals are to measure gate openings. The measured gate opening will be used along with water elevation to determine accurate discharge past the gates. The contractor shall also be required to collect the information necessary to calculate discharge past the gates in real time, though this calculation can be made as part of computations at BCR immediately upon receipt of the data from either INSAT or GSM. The Contractor shall propose measurement options for gauging such flows as an alternative to monitoring gate sensors. The Contractor shall be responsible for all civil works related to the installation of the sensor, though plans for civil work must be approved by the Authority prior to the acquisition, installation and commissioning of the sensor. Regardless of the sensor solution, the flows past the gates must be accurate to the actual flow.
- S. **TLMC and TJMC canal Water Level (stage) and Canal Discharge Stations**: The discharge past the canal gates at head of main canal or at cross regulator or at head of regulatory can be measured by providing gate sensors and level sensors at upstream and downstream of gates or the contractor shall propose measurement options for gauging such flows as an alternative to monitoring gate sensors (e.q. providing side looking ADCP or combination of level sensor and movable ADCP. This data will be communicated to data center using INSAT/VSAT as well as GSM/GPRS communication.

- T. Barrage Control Room (BCR) as Master Controller Data Center** - The objective of establishing of the Master Controller Data Center at BCR is to ensure that the high quality data collection, compilation, processing and analyses are available for producing high quality data by installation of Industrial grade computer work station (BCR) comprising the Master Controller Server to interface with discrete PID controllers such as Programmable Logic Controller to acquire data from the Data Loggers and operator/ remote control panel equipments from master controller on an open protocol such as MODBUS and PROFIBUS with desired high speed - Master Controller Server at the Barrage Control Room at Teesta Barrage at Gazoldoba with the System should be capable to run SCADA compatible software with all maximum potential functionalities with interface terminal for operator control and monitoring system. Master controller should have the facility for storing the data in local drive and communicated through suitable communication devices with antenna and tower for INSAT/ VSAT and GSM/GPRS to remote locations and BCR. Upto 110 inch LED (one single screen) monitoring screen/video wall interfaced with master controller to view the all the parameters and status of the system in text and graphical display, One laptop (i7 4th Gen) with all allied software and hardware accessories, Windows OS 10 or compatible, LASER digital scanner/printer, UPS, Modem, routers/Ethernet switches, RAM and Hard Disk Drive. Antenna, USB ports etc.
- (1) Every water level data observing points will automatically barrage pond/river/canal/rainfall data/water level every 15 minutes and other measurements every 30 minutes and transmit the data. It will store this observed data in its memory and then transmit it in self timed manner in its prescribed time slot every 15 minutes.
  - (2) The data will be brought into an application server(s) which will perform quality control processing, data visualization function, as well as passing the data off to the SCADA. The transfer to the SCADA will entail creating XML data files in real time and placing them on a network directory.
  - (3) The application server(s) will also function as a tool to determine data collection points that are in need of maintenance and repair. Software will provide station outage reports and a summary of total hours of station outage for each station as well as the entire network, by day, month and year or any period of time of interest to the project Authority.
  - (4) A Firewall will be provided to prevent unauthorized access from the INTERNET and will be located between the public web portal and the application server(s).
- U. Installation** - Installation of all data collection points, sensors and data center components shall be provided by the contractor. The contractor will be required to devise acceptable mounts for sensors, as sensor placement should abide by WMO convention as applicable or by standard hydrological practices, so as to ensure a good measurement as well as adequately securing the sensor from tampering and/or vandalism. The project Authority may inspect some or all equipments prior to installation to assure the products meet specifications. The Authority may also delegate this activity to a third party. Each station shall be commissioned by the Engineer-in-charge upon inspection of complete installation and functioning data collection activities. Installation shall be considered complete after System Performance and Acceptance Test (SPAT).
- V. Operation and Maintenance** - The scope of work of the project comprises operation and providing security of all automation and related equipments and spares etc., initial defect liability guarantee (automation, electrical, mechanical, instrumentation, civil and all other subcomponents for a period of next one year (12 months) from the date of commissioning of the project. At the end of the afore said period, the contractor shall be bound to provide further extended warranty of all automation and related equipments and spares etc. only for a period of five calanders years ( 60 months). Provision is required to be kept in the automation system so that the installed SCADA-PLC systems can be repaired or upgraded by other agencies and companies (transfer of technology of maintenance to be made before the defect liability period of contract is over.
- This operation and maintenance support contract shall refer to the complete real time data collection network, proper functioning of BCR, INSAT data collection, ground station antenna and data center including the hardware and software components. Assistance and troubleshooting will be provided for all necessary maintenance, servicing, testing and recalibration operations. The contractor will intervene with his personnel within the agreed dates, on site in case of damages or malfunctioning of equipment or software and will proceed to the investigation of the cause and search for a prompt solution to ensure proper working of the system. The contractor will provide all equipment/computers, transportation and internet connectivity, necessary to maintain the network. Emergency maintenance shall be performed immediately upon notification of a motor/sensor/station outage. Preventative maintenance will be provided twice per year, once just prior to the monsoon season and once just after the monsoon season. The Supplier will provide monthly maintenance reports during the course of the maintenance period. The monthly maintenance reports will cite station and sensor outages, including the amount of time stations/sensors have been out of operation or incorrectly reporting. The annual operation and maintenance charges shall be quoted on a year-by-year basis for the five year maintenance period. The project "Authority" reserves the right to terminate the contract in full or in part at the end of any one year maintenance period. On hand over of the complete system to the Project Authority at the end of the 5 year operation & maintenance period, the contractor shall supply a manual specifying all faults experienced by the system together with an account of how such faults have been rectified. The objective is that the personnel of Teesta Barrage Project Authority will know from lessons learnt during the 5 years operation & maintenance period.
- W. Training** - Training shall be provided by the contractor in several phases. The training shall be provided for the installation of equipments/main master controller station/sensors as well as operation and maintenance of the monitoring stations/sensors. The training shall include both classroom and field trainings. The Project Authority officials

shall also be trained on the operation of the INSAT Station, GSM data collection station, Ground Station Antenna and data center, along with the data quality control computer. There shall be one week of training on the data collection platforms, communications, sensors etc. There shall also be field trainings which will include on-site training at Teesta Barrage site. There shall be one week of training on the operation and maintenance of the INSAT/VSAT and GSM/GPRS data collection station with a combination of classroom and hands-on training. There shall be one week of training for the data control computer function.

- X. Gate operation through SCADA-PLC systems and maintenance contract for a further period of 5 (Five) years and after initial defect liability guarantee period of one year from the date of commissioning of the project including extended warranty of all equipments and spares etc. till that period and also maintain safety and security of such equipments. Provision is kept in the automation system so that the installed SCADA-PLC systems can be repaired or upgraded by other agencies and companies (transfer of technology of maintenance to be made within the extended warranty contract period. **Provision for suitable upgradation of the utilized SCADA-PLC systems, modification required due to change in guidelines of gate operation in future, along with for further expansion through adding more SCADA features and more sensors is to be kept open in the system. Storage of data in encrypted data base and secured network, protected from all viruses and malwares in a secured server /cloud or any other secured suitable device for 50 years data retention.** All equipments shall conform to Indian standards and specifications and the electro-mechanical component and epoxy painting shall confirm to BIS specifications. The contractor shall provide a O&M manual in four sets after completion of the work. The SCADA-PLC systems should be installed in such a manner so as not to create any hindrance to the periodical mechanical & electrical maintenance works of barrage and head regulator gates.

### 3.5 Broad requirements of mechanical & electrical works included in the Project:

- A) Maintenance of one no. central gear box and two no. end gear boxes of each gate of 45 nos. barrage main gate and 17 nos. head regulator gates including cleaning of gears & pinions bearings and lubricating with requisite quantity of grease, gear oil seals(for the required gear boxes).**
- Opening the central gear box cover removing the existing gear oil and cleaning the gear pinion shaft, bearing and all other ancillary components etc. by suitable means/ media to remove old gear oil/ grease, rusts and other foreign contaminants. Greasing all the bearings with suitable volume pump with the supply of 3.50 Kg Servo Gem EP-2 or equivalent grease, maintain proper oil level by adding required quantity of Servo Gear H.P 140 or equivalent, refitting the cover in proper alignment including replacement of damaged nuts, bolts & washers etc.
  - Opening the end gear box cover removing the existing gear oil and cleaning the pinion, shaft bearing, and all other ancillary equipments etc. by suitable means collecting the existing gear oil from the gear box housing for reuse (if suitable). Greasing all the bearings with suitable volume pump with the supply of 6 Kg. (approx.) Servo Gem EP-2 or equivalent grease refitting End gear Box housing with Servo Gear H.P 140 or equivalent to proper level cleaning and refitting the gear box cover with proper alignment including replacement of damaged nuts, bolts & washers etc.
- B) Maintenance of two no. rope drums along with rope by applying rope compounding for each of the 45 no. barrage main gates & 17 no. H/R gates.**
- Opening each rope drum cover and through cleaning the rope drum hoisting and bearing and entire rope from gate hinge to drum with necessary safety measures by adjusting the gate height and greasing with supply of approximate 1.5 Kg Grease (**Servo Gem EP-2**) or equivalent per rope drum end and cleaning thoroughly foreign particles and contaminants from entire wire rope with supply of 20 ltrs. thinner and coating with Servo Coat 140 or equivalent and refitting the same in proper alignment including replacement of nuts, bolts & washers etc. Work should be completed including cost of labour, scaffolding Servo Gem EP-2, Servo Coat 140 or equivalent, and Thinner etc.
- C) Maintenance of 8 no. of load rollers and repairing of bogie frame of each of the 45 no. barrage main gate.**
- Maintenance and repair of load roller after dismantling from bogie frame of the Barrage gate which should be cleaned properly by removing dust, rust, old grease and other foreign components with appropriate and greasing the gate components with suitable volume pump to make it perfect operating condition including supplying of requisite quantity of Servo Gem EP-2 or equivalent grease complete including scaffolding after necessary.
- D) Replacement of load roller bearings (32224) of damaged guide roller bearing with new one of each of the 45 no. Barrage Main Gates as per actual requirement.**
- Replacement of the Barrage gate load roller which should be replaced properly against damaged or broken bearing with replacement of oils seal / O-ring to make it perfect operating condition including supplying of requisite quantity of Servo Gem EP-2 or equivalent grease complete including scaffolding after necessary replacement of

old and damaged bearing (32224) with proper necessary tools like bearing puller etc. and supplying & refitting of new approved make bearing in place properly.

- Replacement of damage gate guide roller bearings with a new one guide roller bearing properly.

**E) Maintenance of of 4 no. Equalizer Pulley, in each of the 45 no. barrage main gates & 17 no. H/R Gates.**

- Repair and maintenance of the Barrage main gate and H/R gates equalizer pulley which should be cleaned properly by removing dust, rust, old grease and other foreign components with appropriate and greasing the gate components with suitable volume pump to make it perfect operating condition including supplying of requisite quantity of Servo Gem EP-2 or equivalent grease complete including scaffolding after necessary.

**F) Replacement and refitting of wornout / damaged rubber seals for 45 no. Barrage main gates & 17 no. H/R gates.**

- Supply, fitting and fixing of neoprene bottom rubber seal (Flat type) as per IS: 14566 : 2004 of Teesta Barrage Gates (size 18.75M (L) x 89 mm (W) x 24 mm (T)) after removal of old and damaged rubber seals including disposal (as directed by E.I.C) from gate bottom plate with a painted seal plate by required size of nuts and bolts.
- Supply, fitting and fixing of L Type neoprene side rubber seal (L type) as per IS: 14566 : 2004 of Teesta Barrage Gates (size 90 X 74 X 20) after removal of old and damaged rubber seals from gate side plate(two sides) with painted a seal plate by required size of nuts and bolts.

**G) Maintenance and repair of 4 nos. of guide springs for each of the 45 nos. of barrage main gate.**

- Supplying and fixing of guide spring after removal of old broken guide springs from gate plate and painting of seal plate along with the nut bolts.

**H) Maintenance and repair of 2 nos. plumber blocks for each of the 45 nos. of barrage main gates & 17 nos. H/R gates.**

- Opening the plumber block cover of the main driving shaft cleaning the same to remove dust, rusts etc. by suitable means including changing the damaged felt, brass bush refitting the cover after refitting the Servo Gear H.P 140 or equivalent to desired level.

**I) Replacement of damaged oil seal, for each main gate & H/R gates.**

- Dismantling the driving shaft from central gear box to end gear box and taking out driving pinion shaft after dismantling the end gear box cover and all other components as required including supplying of labours etc.
- Taking out the old and damaged oil seals & Bearing 6217 from the pinion shaft after dismantling flange coupling fitted with the pinion shaft with the help of heavy duty Jack/ Hydraulic Jack or any other means (This work should be done in a well equipped workshop).
- Refitting the special double leaf type new oil seal & Bearing (2 Nos. 6217), if necessary, and flange coupling with the pinion shaft after inserting one packing and polishing of seal journal of the shaft in proper position and alignment.
- Reassembling the pinion (after fitting new oil seal & bearing) shaft after including jointing of the driving shaft, end gear box cover and any other accessories to complete the job.
- Supply of Oil Seal for End Gear Box.

**J) Replacement of 4 no. of bearing no. 6217 Z type for each gate with supply, fitting and fixing for end gear boxes.**

**K) New supply of shop manufactured 4 no. of segments (2 no. bottom segment and 2 no. other) of fabricated structural steel stoplogs(as per drawing) including installation, painting and maintenance of existing 31 nos. of stop logs for the Teesta barrage main gates.**

- Carrying the each segment of stop log from its piers to suitable working place (near the stair way of Main barrage) and placing to the wooden platform and placing the same in to the piers after changing the worn out rubber seals.
- Supply and fixing of neoprene bottom rubber seal (Flat type) as per IS: 14566 : 2004 of Stop Logs (size 20.0 M (L) x 89 mm (W) x 24 mm (T)) after removal of old and damaged rubber seals from gate bottom plate with painting of seal plate.
- Fixing of rubber seal with Galv. Bolts with nuts of 16 mm dia. (length 70 mm & 100mm) (GKW make) including supply of check nut of 16 mm dia.
- Supplying of Galvanized Spring washer of 60 mm ID, extra thick quality with 63 mm dia. check nut suitable for fitting.
- Supply fabrication with materials tools & plants including transportation from workshop carriage to site and erection of eight new structural steel segments comprising one unit of stop log of Barrage including rubber seal fittings, preparation, installations complete.

**L) Complete Replacement of wooden block for stop logs (4 no. of each existing units) of barrage main gates.**

- Supplying of seasoned Sal Wooden block at Teesta barrage stop logs.  
Supplying M.S nut & bolt with washer for fixing the wooden blocks at Stop Log units.
- Supply fabrication with materials tools & plants including transportation from fabrication yard to site and erection of one segment of existing stop log including removal of damaged submerged segment of stop log.

**M) Chequered plate units**

- Dismantling and removal of damaged or worn out chequered plate as and where required over the trestle bridge and supplying, fitting & fixing of new plates with painting.

**N) Maintenance of 3 no. gear boxes of gantry crane units**

- Opening the gear box covers removing the existing gear oil and cleaning the pinion, shaft bearing, and all other auxiliary equipments etc. by suitable means collecting the aged gear oil from the gear box housing for reuse (if suitable). Greasing all the bearings with suitable volume pump with the supply of 6 Kg. (approx.) Servo Gem EP-2 or equivalent grease refitting Gear Box housing with Servo Gear H.P 140 or equivalent to proper level cleaning and refitting the gear box cover with proper alignment including replacement of damaged nuts, bolts & washers etc.

**P) Repair and rewinding of gantry crane main motor**

- Complete rewinding of the burnt out motor of Teesta Barrage Gantry Crane after dismantling the damaged motor from its original position, Removal of burnt out stator winding of the same, rewinding of the motor by supplying of copper wire of adequate gauge, heat varnishing the same, and re-fitting it to its original position maintaining all safety precautions.
- Varnishing, and heating the following types of motor with supply of 3.0 litre varnish/ per motor. After dismantling the motor from its plate and refitting the same after proper overhauling in position and checking the motor operation at load. This work includes replacement of damaged nuts, bolts & washers (if any), connecting the motor with its panel board and carriage of motor to Companies workshop and back to site.

**Q) Supply of new generator set for the gantry crane unit of main barrage**

**R) Changing of glass sheet for the gantry crane control cabin**

- Supplying, fitting and fixing of the 5mm transparent acrylic sheet for windows for the crane operator cabin of gantry crane.

**S) Changing of wire rope for the gantry crane**

- Supplying, fitting and fixing of steel wire rope of 13 mm diameter, construction of 6x37, steel core, 1960 tensile designation, conforms to IS specification 2266:2002(Table no-3).

**T) Repair & maintenance of driving motor for each of the 45 no. main gates & 17 no. of H/R Gates.**

➤ **Heat Varnishing :**

Varnishing, and heating the following types of motor with supply of 1 litre varnish/ per motor. After dismantling the motor from its plate and refitting the same after proper overhauling in position and checking the motor operation at load. This work includes replacement of damaged nuts, bolts & washers (if any), connecting the motor with its panel board and carriage of motor to Companies workshop and back to site.

KW/HP: 2.2/3 Volt: 440Volt, Amp: - 6 Amp, 3 Phase, insulation: B, RPM: 720/750, Rating S1, make: GEC,  
Frame size: 132S

**U) Repair and maintenance of limit switch for each of total 45 nos. of main gates and head regulator gates.**

- Repair and maintenance of rotary type limit switch including supply of copper strips as per sample, and filling with the required quantity of transformer oil (Askaral or equivalent) and electrical connection after repairing, testing the limiting operation i.e. stop the motor at lowest point and highest position of the gate during lower & upper movement.

**V) Repair and maintenance of electrical panel board for each of total 45 nos. of main gates and 17 no. of Head Regulator Gates.**

- Replacement of old contactors from gate panel board including replacement of O/L contactor, On/ Off Switch, Fuses, Indicator Lamps, Raise & Lower Switches, Heater Coil etc. by Supplying and fixing New one as per proper rating, connecting them to the circuit and testing.

**W) Repair and maintenance of Electro-Mechanical brake system for each of total 45 nos. of main gates and 17 no. of Head Regulator Gates.**

- Repairing and maintenance of brake solenoid coil, brake plunger, and replacement of damage brake shoes with proper materials supply, fitting and fixing on existing frame.

**3.6 AUTOMATION & CONTROL:**

**(A) Objectives of Automation of Teesta barrage & Head Regulator Gates**

The key feature of the Remote Control Automation of Teesta Barrage Gates, Head Regulator Gates of TMLC and TJMC through state of the art SCADA-PLC on an open protocol such as MODBUS and PROFIBUS to run the gates from control room located beside the Barrage structure also from local control panel located on top of the Trestle Bridge of barrage gate. The complete automation system could enable to monitor from remote stations i.e. Jalpaiguri and Siliguri on real time, viewed on monitors, even from Kolkata through INSAT from Teesta Barrage Control Room. This effort is for Design, supply, installation, testing, commissioning and operation of SCADA system based upon Programmable Logic Controllers for following functions:-

- (i) Complete automation (Automation control of Gate operations) of Teesta Barrage and H/R gates of TJMC and TMLC with PLC and RTU for monitoring and control of Barrage discharge through Auto mode and manual mode. In manual operation, control of gates will be through switch and starter from control room & also from local control panel on top of the Trestle bridge. **The manual option for operation of existing system should be kept alive for combating emergency operation in case of gross power failure at Teesta barrage site or otherwise due to sudden collapse of automated operation.**
- (ii) Monitoring of river and canal discharge of different gates. Acoustics Doppler flow measurement shall be performed at various points of the water course for updating the stage discharge relationship and calibration of barrage and head regulator gates. Where heavy siltation exists, river/canal profiles shall be determined using Acoustic Doppler Current Profiler (ADCP) at regular intervals of 10-15 days. Profiler ADCPs are proposed to perform these canal profiles.
- (iii) Each field data node shall have power supply (AC/DC/solar Power), data acquisition, data storage and transmission facility of PLC/RTU along with observation equipment. The data acquisition equipment shall have an interface with data communication equipment. The proposed data system shall have both data and voice communication with priority to data communication. Including transmission of data through SMS to the specified user. The canal gate automation software shall also provide actual water flow by as per example "FLOWCAL".
- (iv) The canal gate automation software shall also provide and will graphical display of all gate positions and discharge flowing. Application of graphical user interface shall enable display and generation of reports with statistical summaries.
- (v) The computer system installed at the control centers shall have facility to send emergency alarms, routine data as and when required by concern authorities on INSAT network.
- (vi) Display and Monitoring of various gate positions, barrage pond levels, and various discharge values shall be available at Siliguri monitoring station and Jalpaiguri Flood Control Room cum monitoring station.
- (vii) Monitoring of rainfall through Digital rain Gauge fixed at BCR.
- (viii) Recording of above parameters and secured storage of records for analysis and availability of observed data for next 50 years and in web storage in Cloud etc..
- (ix) Real Time updating of acquired / calculated variables on web pages for information sharing with all authorised personnel.
- (x) Flood Alarm system with adequate time to response for Gate opening and operation.
- (xi) Monitoring the river Silt content levels near gates of barrage and both bank canals by transducers
- (xii) All above comprises the Automatic Reservoir Monitoring and Control Systems (ARMAC)

**B. The main items for control & equipments are to be supplied and installed under this section comprise the following:**

- (i) RTU/PLC based remote control system, complete in all respects located at Barrage Top, for Control and operation of spillway gates and silt excluder gates.(Offer of the Bidder shall contain complete PLC-Master Controller on an open protocol such as MODBUS / PROFIBUS – integrated in the CPU/Server at the BCR with no additional gateway required.
- (ii) Gate position, discharge (by say FLOWCAL Software or higher) indication and monitoring of all 62 gates.
- (iii) Calculation and display of total discharge through spillway gates, H/R gates of TMLC and TJMC.
- (iv) Radar based water level cum discharge measuring and indicating equipment along with warning System / Alarm at Barrage location.
- (v) SCADA-PLC system complete in all respects including printers, 110" LED screen/Video Wall etc.
- (vi) INSAT/VSAT communications module with simultaneous backup of GPRS/GSM for remote data communication.
- (vii) Silt measuring transducer as per specification.



- (viii) Digital Automatic Rain Gauge as per specification.
- (ix) One Flood Alarm System as per specification.
- (x) 4 (four) PTZ night vision cameras as per specification.

**C. All protocol to be used should be Open ended one so that any other intelligent device can include/ exclude or communicate with the system without any protocol communication.**

The Project in itself shall be complete with all necessary auxiliaries such as primary elements (position transmitters, limit switches etc.), cabling etc., as well as frames, built-in and embedded parts including all spare parts and special tools required. All the equipment shall be of international & BIS specifications from well-known reputed manufacturers. Provisions for suitable up gradation of the SCADA-PLC system and modifications required in future due to change in guidelines of gate operation, along with for further expansion such as camera feed, adding more SCADA features and more sensors is to be kept open in the system. Storage of data in encrypted data base and secured network from all viruses and malwares in a secured server of 50 years data retention is desired.

### **3.7 ANTI-RUST TREATMENT AND PAINTING.**

#### **Painting of Barrage Superstructure, Main Gates, Head Regulator Gates other structural components including embedded parts.**

The life of barrage super structure, fabricated structural steel gates & other structural steel parts depend upon quality of protective coatings applied on it to protect it from seasonal weathering conditions. Superstructure of Teesta Barrage was commissioned in the year of year 1985. Painting of gates was done on a few previous occasions and at this moment is urgently required. Direct exposure to weather actions, constant exposure to dry & wet condition, submergence in river water, atmospheric pollutants, dust etc. has been responsible for continuous damage to the MS structural steel plates and members, connections and joints. Teesta Barrage super structure and mechanical components requires appropriate coats of painting. The super structural submerged gate portions are susceptible to corrosion due to continuous under water condition. So applying appropriate protective coating of epoxy paints on metallic structural portion in entirety would substantially increase the barrage super structure life.

#### **Preparation of Steel surfaces for painting:**

Surface preparation with proper protection as per specified standards laid down in BIS code IS-14177 by shot/sand blasting (SA:2.5 STD /requirements given in IS code by compressor air jets and where ever required manually, mechanical cleaning, power tool cleaning, and then preparation of surface and applying **zinc based primer** two coats by mechanized airless spraying machine. Also, manual intervention for rust removal is necessary for various components.

Final Painting of all structural & other spares and parts and all gates, embedded parts, stop log, gantry etc including its structural steel appurtenants:

Applying by mechanized means over prepared surfaces within specified time & procedure as per BIS code appropriate thickness of **Epoxy Paints** of two coats both under water submerged portions and exposed portions.

Cost & hire of Tools & Plants, paints, equipments & scaffolding, skilled & unskilled workmen, safety measures, technical supervision etc to be included in the offer bid to be executed as per BIS /ISO Good Practice for Industries provisions.

The approximate total surface area of barrage steel structural portion is **39,628 Sq.m**, on which protective coating should be applied by appropriate epoxy based paint in two or if required additional coats wherever necessary after applying zinc phosphate/based primer, and

The approximately total surface area of barrage gates portion is approx **30,079 Sq.m**, on which protective coating should be applied comprising epoxy based paints in two or three coats where ever necessary after applying zinc based primer coats on prepared surface.

### **3.8 ANCILLARY CIVIL WORK & POWER DISTRIBUTION:**

The contractor is required to suitably modify the Barrage Control Room into a modern well furnished exterior & interior decorated BCR as well as the other two Monitoring Stations inclusive of all civil works and procurement of necessary furnitures, fittings and fixtures, and also upgrade the electrical power distribution system for the Master Controller Server BCR at Barrage site and also at Jalpaiguri and Siliguri monitoring and control statuaries. The control panel at BCR would be provided with additional Solar Power Supply with battery with all masts, mounts complete in all respects.

**3.9 EMERGENCY DISASTER MANAGEMENT & EXTENDED FIVE YEARS WARRANTY, O & M.**

Electrical Power distribution system modernization with provision to tackle cable faults and tripping of power supply for automated Gate Operation.

1. Existing 3-phase AC Electric Supply distribution to be revamped, upgraded.
2. In case of any fault or short fall in transmission or distribution of electric power, backup power will be retrived from 3 source automatic control switch.
3. In case of tripping of AC power supply, the D.G set to start functioning by auto switch (existing DG set as well as a new DG set is to be procured and commissioned under this Project).
4. Provision of circuit breaker to be provided to protect equipments for monitors of gates due to faults/short circuits.
5. Separate lighting arrangement for Barrage & SCADA Control Room (BCR) and dedicated distribution network for Barrage Gates with provision for Solar Power with battery as per specification.
6. Safety against lightening / earthing.

.....

## ARTICLE 3

### OBLIGATIONS OF THE CONTRACTOR

- 3.1 Obligations of the Contractor
- 3.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, construction, and maintenance of the Project and observe, fulfill, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 3.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.
- 3.1.3 Subject to the provisions of Clauses 3.1.1 and 3.1.2, the Contractor shall discharge its obligations in accordance with Good Industry Practice and as a reasonable and prudent person.
- 3.1.4 The Contractor shall remedy any and all loss or damage to the Project from the Appointed Date until the end of the Construction Period at the Contractor's cost, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority, and specified upto the end of defect liability period.
- 3.1.5 The Contractor shall remedy any and all loss or damage to the Project during the Defects Liability Period at the Contractor's cost to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 16.3.
- 3.1.6 The Contractor shall remedy any and all loss or damage to the Project during the Maintenance Period at the Contractor's cost, including those stated in Clause 14.1.2, save and except to the extent that any such loss or damage shall have arisen on account of any default or neglect of the Authority or on account of a Force Majeure Event.
- 3.1.7 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:
- (a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth in Schedule-F and obtain and keep in force and effect such Applicable Permits in conformity with the Applicable Laws;
  - (b) procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes and systems used or incorporated into the Project;
  - (c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;
  - (d) ensure and procure that its Sub-contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;
  - (e) not do or omit to do any act, deed or thing which may in any manner violate any of the provisions of this Agreement;
  - (f) support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;
  - (g) ensure that the Contractor comply with the safety and welfare measures for labour in accordance with the Applicable Laws and Good Industry Practice;
  - (h) keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, and Change of Scope Orders and other communications given under this Agreement. The Engineer-in-Charge and its authorized personnel shall have the right of access to all these documents at all reasonable times;
  - (i) cooperate with other contractors employed by the Authority and personnel of any public authority; and
  - (j) not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Authority or of others.
- 3.1.8 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.
- 3.2 Obligations relating to sub-contracts and any other agreements
- 3.2.1 The Contractor shall not sub-contract any work of related to any sub component or portion/ portions of the project.  
The Contractor shall not sub-contract any Works of the Project and shall carry out Works directly under its own supervision and through its own personnel; Provided, however, that in respect of the Works carried out directly by the Contractor, it may enter into contracts for the supply and installation of

Materials, Plant, equipment, machineries furniture, safety devices and labour, as the case may be, for such Works.

### 3.3 **Employment of foreign nationals**

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/or its Suppliers on agencies and their sub- contractors shall be subject to grant of requisite regulatory permits and approvals including employment/residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor shall not constitute Force Majeure Event, and shall not in any manner excuse the Contractor from the performance and discharge of its obligations and liabilities under this Agreement.

### 3.4 **Contractor's personnel**

3.4.1 The Contractor shall ensure that the personnel engaged by it or by its suppliers and agents in the performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Good Industry Practice.

3.4.2 The Engineer-in-Charge may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Supplier or Agents' personnel; Provided that any such direction issued by the Engineer-in-Charge shall specify the reasons for the removal of such person.

3.4.3 The Contractor shall on receiving such a direction from the Engineer-in-Charge, order for the removal of such person or persons with immediate effect. It shall be the duty of the Contractor to ensure that such persons are evicted from the Site within 7 (seven) days of any such direction being issued in pursuance of Clause 3.4.2. The Contractor shall further ensure that such persons have no further connection with the Works or Maintenance under this Agreement. The Contractor shall then appoint (or cause to be appointed) a replacement.

### 3.5 **Advertisement on Project**

The Project or any part thereof shall not be used in any manner to advertise any commercial product or services.

### 3.6 **Contractor's care of the Works**

The Contractor shall bear full risk in and take full responsibility for the care of the Works, and of the Materials, goods and equipment for incorporation therein, from the Appointed Date until the date of Provisional Certificate (with respect to the Works completed prior to the issuance of the Provisional Certificate) and/or Completion Certificate (with respect to the Works referred to in the Punch List), save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

### 3.5 **Advertisement on Project**

The Project or any part thereof shall not be used in any manner to advertise any commercial product or services.

### 3.6 **Contractor's care of the Works**

The Contractor shall bear full risk in and take full responsibility for the care of the Works, and of the Materials, goods and equipment for incorporation therein, from the Appointed Date until the date of Provisional Certificate (with respect to the Works completed prior to the issuance of the Provisional Certificate) and/or Completion Certificate (with respect to the Works referred to in the Punch List), save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

### 3.7 **Electricity, water and other services**

The Contractor shall be responsible for procuring of all power, water and other services that it may require.

### 3.8 **Unforeseeable difficulties**

Except as otherwise stated in the Agreement:

- (a) the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;
- (b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and
- (c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs except due to Force de-majeure.

<sup>s</sup>

May be deleted, if the Contractor is not a Consortium.

## **ARTICLE 4**

### **OBLIGATIONS OF THE AUTHORITY**

#### **4.1 Obligations of the Authority**

- 4.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 4.1.2 The Authority shall be responsible for the reasonable correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for testing of the completed Works.
- 4.1.3 The Authority shall provide to the Contractor:
- (a) upon receiving the quadruplicate copies of this Agreement for signed, the Right of Way in accordance with the provisions of Clauses 8.2 and 8.3, within a period of 15 (fifteen) days from the date of this Agreement, on no less than 90% (ninety per cent) of the total scope of work of the Project;
- 4.1.4 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following:
- (a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;
  - (b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favourable than those generally available to commercial customers receiving substantially equivalent services;
  - (c) procure that no barriers that would have a material adverse effect on the works are erected or placed on or about the Project by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, National security, law and order or collection of Inter-State Taxes;
  - (d) not do or omit to do any act, deed or thing which may in any manner is violative of any of the provisions of this Agreement;
  - (e) support, cooperate with and facilitate the Contractor in the Implementation of the Project in accordance with the provisions of this Agreement; and
  - (f) upon written request from the Contractor and subject to the provisions of Clause 3.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor to obtain applicable visas and work permits for the Purposes of discharge by the Contractor of their obligations under this Agreement.

#### **4.2 Maintenance obligations prior to the Appointed Date**

The Authority shall, prior to the Appointed Date, maintain the Project, at its own cost and expense, so that normal operation is not materially inferior as compared to its condition 10 (ten) days prior to the last date for submission of the Bid, and in the event of any material deterioration or damage other than normal wear and tear, undertake repair thereof. For the avoidance of doubt, the Authority shall undertake only routine maintenance prior to the Appointed Date, and it shall undertake special repairs only in the event of excessive deterioration or damage caused due to unforeseen events such as floods or earthquake.

#### **4.3 Statutory Clearances**

No further environment clearance is required for commissioning of the project.

## ARTICLE 5

### REPRESENTATIONS AND WARRANTIES

#### 5.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

- (a) it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (b) it has taken all necessary corporate and/or other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- (d) it is subject to the laws of India and within the State of West Bengal and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising there under including any obligation, liability or responsibility hereunder;
- (e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- (f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- (h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;
- (i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- (j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- (k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith;

- (l) all information provided by the {selected bidder/ members of the Consortium} in response to the Notice of Request for Qualification and Request for Proposals or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and
- (m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any agencies, manufactures suppliers, designers, consultants or agents of the Contractor.

## 5.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

- (a) it has full power and Authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- (b) it has taken all necessary actions under the Applicable Laws to authorise the execution, delivery and performance of this Agreement;
- (c) it has the financial standing and capacity to perform its obligations under this Agreement;
- (d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;
- (f) it has complied with Applicable Laws in all material respects;
- (g) it has good and valid right to the Site and has the power and Authority to grant the Right of Way in respect thereof to the Contractor; and
- (h) it has procured Right of Way and statutory clearances such that the Contractor can commence construction forthwith on 90% (ninety per cent) of the total working area of the Project.

## 5.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

**ARTICLE 6**  
**DISCLAIMER**

**6.1 Disclaimer**

- 6.1.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Qualification, Request for Proposal, Scope of the Project, Specifications and Standards of design, construction and maintenance, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 4.1.2 and Clause 5.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.
- 6.1.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 6.1.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 6.1.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above shall not vitiate this Agreement, or render it voidable.
- 6.1.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 6.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 6.1.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof.



# Part III

## Construction and Maintenance

## **ARTICLE 7**

### **PERFORMANCE SECURITY**

#### **7.1 Performance Security**

7.1.1 The amount of performance security of the above work is amounting to 7.5% of the contract price or the final value of work actually executed on completion whichever is higher. At the bidding stage, the bidder will deposit around 2% of estimated cost (defined earlier) through online system of e-Procurement/e-Tender (RTGS/NEFT) as their Bid Security or the EMD. Rest of the amount to make up for overall 7.5% which is more or less 5.5% will be progressively deducted from the running account/ interim stage payment bills of the contractor in the progressive bills up to the completion of work with reference to the contract price of the bid.

7.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of Clause 7.1.1 and within the time specified therein or such extended period as may be provided by the Authority, the Authority may forfeit the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.

#### **7.2 Extension of Performance Security**

The Contractor would be required initially to provide the full Performance Security for a period of 1 (one) years after completion of the project; provided that it shall procure the extension of the validity of the Performance Security, as necessary, at least 2 (two) months prior to the date of expiry of Project completion date thereof. Upon completion of Defect liability period and the extended warranty period as applicable from the actual Project implementation (Project Completion date), the Contractor would be returned Performance Security in accordance with Clause 7.4.

#### **7.3 Appropriation of Performance Security**

7.3.1 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to forfeit and appropriate the relevant amounts from the Performance Security as Damages for such Contractor's Default.

7.3.2 Upon such forfeit and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Authority shall be entitled to terminate the Agreement in accordance with Article 22. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor's Default, and in the event of the Contractor not curing its default within such Cure Period, the Authority shall be entitled to forfeit and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 22.

#### **7.4 Release of Performance Security**

After successful completion of first one full year (Guarantee period) defect liability period, which is defined as initial one year guarantee period, security deposit will be released in such a way for which lump sum amount of Rs 50.00 (fifty) Lakh would be retained by 'The Authority' for next 5 (five) years of Extended Warranty Period. Each year balance security release will be on a pro-rata basis from the Performance Guaranteed sum of Rs. 50.00 (fifty) Lakh i.e Rs.10.00 (ten) Lakh to be released per year till it becomes Nil at the end of 5 (five) years of extended warranty period, if bidder performs satisfactorily as per Agreement.

**7.5 Retention Money**

- 7.5.1 From every running account payment for Works due to the Contractor in accordance with the provisions of Clause 18.5
- 7.5.2 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor's Default.
- 7.5.3 Within 60 (sixty) days of the date of issue of the Completion Certificate, the Authority shall discharge performance security furnished by the Contractor under the provisions of Clause 7.2 and clause 7.3, 7.4 .....
- 7.5.4 The Parties agree that in the event of Termination of this Agreement, the Retention Money specified in this Clause 7.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 22.6.

## ARTICLE 8

### RIGHT OF WAY

#### 8.1 The Site

The site of the Project (the "Site") shall comprise the site described in Schedule-A in respect of which the Right of Way shall be provided by the Authority to the Contractor. The Authority shall be responsible for:

- (a) Acquiring and providing Right of Way on the Site in accordance with the scope of work finalised by the Authority, free from all encumbrances, and free access thereto for the execution of this Agreement; and
- (b) Obtaining licences and permits for statute clearances for the Project.

#### 8.2 Procurement of the Site

- 8.2.1 The Engineer-in-Charge and the Contractor shall, within 15 (fifteen) days of the date of this Agreement, inspect the Site and prepare a Memorandum containing an inventory of the Site including the vacant and unencumbered land, buildings, all existing machineries and equipments and any other immovable property on or attached to the Site. Subject to the provisions of Clause 8.2.3, such Memorandum shall have appended thereto an appendix (the "Appendix") specifying in reasonable detail those parts of the Site to which vacant access and Right of Way has not been given to the Contractor. Signing of the Memorandum, in two counterparts (each of which shall constitute an original), by the authorised representatives of the Parties shall be deemed to constitute a valid evidence of giving the Right of Way to the Contractor for discharging its obligations under and in accordance with the provisions of this Agreement and for no other purpose whatsoever.

Whenever the Engineer-in-Charge is ready to hand over any part or parts of the Site included in the Appendix, it shall inform the Contractor, by notice, the proposed date and time such of handing over. The Representative of Engineer-in-Charge and the Contractor shall, on the date so notified, inspect the specified parts of the Site, and prepare a memorandum containing an inventory of the vacant and unencumbered access to land, structure, and any other immovable property on or attached to the Site so handed over. Signing of the Memorandum, in two counterparts (each of which shall constitute an original), by the authorised representatives of the Parties shall be deemed to constitute a valid evidence of giving the relevant Right of Way to the Contractor.

- 8.2.2 The Authority shall provide the Right of Way to the Contractor in respect of all land by the date specified in Schedule-A for those parts of the Site referred to therein, or no later than 30 (thirty) days of the Appointed Date for those parts of the Site which have not been specified in Schedule-A, and in the event of delay for any reason other than Force Majeure or breach of this Agreement by the Contractor, it shall allow extension of time for project completion for equivalent period.
- 8.2.3 Notwithstanding anything to the contrary contained in this Clause 8.2, the Authority shall specify the parts of the Site, if any, for which Right of Way shall be provided to the Contractor on the dates specified in Schedule-A. Such parts shall also be included in the Appendix prepared in pursuance of Clause 8.2.1.

Provided that if any Work cannot be undertaken within the limits of a Police Station or an administrative block within any area falling in a reserved forest or wildlife sanctuary, as the case may be, because the requisite clearances or approvals for commencing construction of Works therein have not been given within ..... days of the Appointed date, the affected Works shall be deemed to be withdrawn under the provisions of this Clause 8.2.3.

- 8.2.4 In the event of withdrawal of Works under Clause 8.2.3, the Contract Price shall be reduced by an amount equal to 90 (ninety) per cent of the value of the Works withdrawn and the Contractor shall not be entitled to any other compensation or Damages for the withdrawal of Works.

#### 8.3 Site to be free from Encumbrances

Subject to the provisions of Clause 8.2, the Site shall be made available by the Authority to the Contractor pursuant hereto free from all Encumbrances and occupations and without the Contractor being required to make any payment to the Authority on account of any costs, compensation, expenses and charges for the acquisition and use of such Site for the duration of the Project Completion Schedule.

8.4 Protection of Site from theft and pilferage

On and after signing the Memorandum and/or subsequent Memorandum referred to in Clause 8.2.1, and until the issue of the Completion Certificate, the Contractor shall maintain a round-the-clock vigil over the Site and shall ensure and procure that no theft and pilferage thereon takes place. During the Construction Period, the Contractor shall protect the Site from any and all thefts, pilferage or Encumbrances, and shall not place or create nor permit any other person claiming through or under the Agreement to place or create any security threat over all or any part of the Site or the Project Assets, or on any rights of the Contractor therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement. In the event of any theft or pilferage of any parts from the Site, the Contractor shall report forthwith to the Authority and undertake its Replenishment at its own cost and expenses.

8.5 Special/temporary Right of Way

The Contractor shall bear all costs and charges for any special or temporary Right of Way required by it in connection with access to the Site. The Contractor shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Project and the performance of its obligations under this Agreement.

8.6 Access to the Engineer-in-Charge and other Departmental Officers

8.6.1 The Right of Way given to the Contractor hereunder shall always be subject to the right of access of the Authority and the Engineer-in-Charge and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.

8.6.2 The Contractor shall ensure, subject to all relevant safety procedures, that the Authority has un-restricted access to the Site during any emergency situation, as decided by the Engineer-in-Charge.

8.7 Geological and archaeological finds

It is expressly agreed that mining, geological or archaeological rights do not form part of this Agreement with the Contractor for the Works, and the Contractor hereby acknowledges that it shall not have any mining rights or interest in the underlying minerals, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Site shall vest in and belong to the Authority or the concerned Government Instrumentality. The Contractor shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Authority forthwith of the discovery thereof and comply with such instructions as the concerned Government Instrumentality may reasonably give for the removal of such property. For the avoidance of doubt, it is agreed that any reasonable expenses incurred by the Contractor hereunder shall be reimbursed by the Authority. It is also agreed that the Authority shall procure that the instructions hereunder are issued by the concerned Government Instrumentality within a reasonable period.

## ARTICLE 9

### UTILITIES

#### 9.1 Existing utilities

Notwithstanding anything to the contrary contained herein, the Contractor shall ensure that the respective entities owning the existing right of way, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the Authority of the controlling body of that utility or Right of Way.

#### 9.2 Shifting of obstructing utilities

The Contractor shall, in accordance with Applicable Laws and with assistance of the Authority, cause shifting of any utility (including electric lines, water pipes and telephone cables) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project in accordance with this Agreement. The actual cost of such shifting, as approved and communicated by the entity owning the utility, shall be paid by the Contractor and reimbursed by the Authority to the Contractor. In the event of any delay in such shifting by the entity owning the utility beyond a period of 180 (one hundred and eighty) days from the date of notice by the Contractor to the entity owning the utility and to the Authority, the Contractor shall be entitled to Time Extension in accordance with relevant Clause for and in respect of the part(s) of the Works affected by such delay; provided that if the delays involve any time overlaps, the overlaps shall not be additive.

#### 9.3 New utilities

- 9.3.1 The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Project in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.
- 9.3.2 The Authority may, by notice, require the Contractor to connect any adjoining road to the Project, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Authority's cost in accordance with Article 10.
- 9.3.3 The Authority may by notice require the Contractor to connect, through a paved road, any adjoining service station, Control Room, Power House, Sub-station or any other facility or amenity to the Project, whereupon the connecting portion thereof that falls within the Site shall be constructed by the Contractor on payment of the cost. The cost to be paid by the Authority to the Contractor shall be determined by the Engineer-in-Charge. For the avoidance of doubt, in the event such utility is to be constructed for the benefit of any entity, the Authority may require such entity to make an advance deposit with the Contractor or the Authority, as the case may be, of an amount equal to the estimated cost as determined by the Engineer-in-Charge and such advance shall be adjusted against the cost of construction as determined by the Engineer-in-Charge hereunder.
- 9.3.4 In the event the construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Engineer-in-Charge with the approval of Departmental QBEC.

## ARTICLE 10

### DESIGN AND COMMISSIONING OF THE PROJECT

#### 10.1 Obligations prior to commencement of Works

##### 10.1.1 Within 20 (twenty) days of the Appointed Date, the Contractor shall:

- (a) appoint its representative, duly authorized to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;
- (b) appoint a design director (the "Design Director") who will head the Contractor's design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;
- (c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and
- (d) make its own arrangements for mobilisation of materials needed for the Project under and in accordance with the Applicable Laws and Applicable Permits.

##### 10.1.2 The Authority shall, on or before the date of signing of Agreement, appoint or post or place an Executive Engineer to function as the "Engineer-in-Charge", to discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address of the Engineer-in-Charge forthwith.

##### 10.1.3 Within 15 (fifteen) days of the issue of Work order, the Contractor shall submit to the Authority (Superintending Engineer) and the Engineer-in-Charge a programme (the "Programme") for the Works, developed using networking techniques in conformity of Schedule I and Schedule-J, giving the following details:

Part I Contractor's organisation for the Project, the general methods and arrangements for Planning, Development and construction, management plan, Quality Assurance Plan including design quality plan, and safety plan covering safety of users and workers during construction, Contractor's key personnel and equipments.

Part II Programme for completion of all stages of construction given in Schedule-H and '**Project Milestones**' of the Works as specified in **Project Completion Schedule** set forth in Schedule-J. The Programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of the stages of sub-components of the Works;
- (b) the periods for reviews under Clause 10.2;
- (c) the sequence and timing of inspections and tests specified in this Agreement.

The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations.

Part III The stage payments would be released by the Engineer-in-charge only on the basis of the agreed physical completion of sub components of the Project as specified under Article 18 of this Agreement in terms of '**Schedule I**' and '**Schedule-J**' contained in the Agreement.

##### 10.1.4 The Contractor shall compute, on the basis of the Drawings prepared in accordance with Clause 10.2.4, and provide to the Engineer-in-Charge, the quantities, as the case may be, in respect of the various items of work specified in **Schedule-H** and contained in the BOQ and comprising the Scope of the Project. The Parties expressly agree that these details shall form the basis for estimating the interim stage payments for the Works in accordance with the provisions of Clause 18.3. For the avoidance of doubt, the sum of payments to be computed in respect of all the items of work shall not exceed the Contract Price, as may be adjusted in accordance with the provisions of this Agreement.

##### 10.1.5 The Contractor shall appoint a licenced safety consultant (the "Safety Consultant") to carry out safety audit during execution stage of the Project in accordance with the Applicable Laws and Good Industry Practice. The Safety Consultant shall be appointed after proposing to the Authority a panel of three names of qualified and experienced firms from whom the Engineer-in-Charge may choose one to be the Safety Consultant.

The Contractor shall also obtain the consent of the Authority for the key personnel of the Safety Consultant who shall have adequate experience and qualifications in safety audit of Barrage, Dam, or other major hydel projects. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant.

- 10.1.6 The safety audit pursuant to Clause 10.1.5 shall be carried out by the Safety Consultant in respect of all such details of Gates and related mechanical & electrical equipments and machines that have a bearing on safety of Users or associated with accidents. The recommendations of the Safety Consultant shall be incorporated in the design of the Project and the Contractor shall forward to the Engineer-in-Charge a certificate to this effect together with the recommendations of the Safety Consultant. For the avoidance of doubt, the Safety Consultant to be engaged by the Contractor shall be independent of the design and implementation team of the Contractor. The system should be cleared by Certified Licensing Authority for such items prior to commissioning such Software Audit clearance reports to be furnished for being eligible of receiving full payment.

## 10.2 Design and Drawings

- 10.2.1 Design and Drawings shall be developed in conformity with the Specifications and Standards set forth in **Schedule-D**. In the event, the Contractor requires any relaxation in design standards, the alternative design criteria for such section shall be provided for review of the Engineer-in-Charge, with may only be accepted by the Departmental QBEC.

## 10.3 Construction of the Project Sub-components

- 10.3.1 The Contractor shall construct the Project as specified in '**Schedule- B**' and '**Schedule-C**', and in conformity with the Specifications and Standards set forth in '**Schedule-D**'. The Contractor 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. The ....<sup>th</sup> (In words-th) day from the Appointed Date shall be the scheduled completion date (the "Scheduled Completion Date") and the Contractor agrees and undertakes that the construction shall be completed on or before the Scheduled Completion Date, including any extension thereof.

- 10.3.2 The Contractor shall construct the Project in accordance with the Project Completion Schedule set forth in **Schedule-J**. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date within a period of 30 (thirty) days from the date set forth in **Schedule-J**, unless such failure has occurred due to Force Majeure or for reasons solely attributable to the Authority, **it shall pay Damages to the Authority of a sum calculated at the rate of 0.05% (zero point zero five percent) of the Contract Price for delay of each day reckoned from the date specified in Schedule-I & Schedule-J and until such Project Milestone is achieved or the Works are completed**; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in **Schedule-J** shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if **Schedule-J** has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, applicable for that work or section, the Damages paid under this Clause 10.3.2 shall be refunded by the Authority to the Contractor, but without any interest thereon.

For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 10.3.2 shall be without prejudice to the rights of the Authority under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected works as specified in Clause 10.5.2.

- 10.3.3 The Authority shall notify the Contractor of its decision to impose Damages in pursuance with the provisions of this Clause 10.3. Provided that no deduction on account of Damages shall be effected by the Authority without notifying the Contractor of its decision to impose the Damages, and taking into consideration the representation, if any, made by the Contractor within 20 (twenty) days of such notice. The Parties expressly agree that the total amount of Damages under Clause 10.3.2 shall not exceed 10% (ten percent) of the Contract Price.

## 10.4 Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at its cost, the project components and equipments and structures machineries etc and safety thereof are at no time materially inferior as compared to their condition 10 (ten) days prior to the date of this Agreement, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor



may, at its cost, interrupt and divert the flow of traffic if such interruption and diversion is necessary for the efficient progress of Works and conforms to **Good Industry Practice**; provided further that such interruption and diversion shall be undertaken by the Contractor only with the prior written approval of the Engineer-in-charge which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring safe operation of the Project.

#### 10.5 Extension of time for completion

10.5.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the "**Time Extension**") to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

- (a) delay in providing the Right of Way, statutory clearances or approval of authorities, specified in Clause 4.1.4;
- (b) Change of Scope (unless an adjustment to the Scheduled Completion Date has been agreed under Article 13);
- (c) occurrence of a Force Majeure Event;
- (d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority's personnel or the Authority's other contractors on the Site; and
- (e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.5.2 The Contractor shall, no later than 15 (fifteen) days from the occurrence of an event or circumstance specified in Clause 10.5.1, inform the Engineer-in-Charge by notice in writing, with a copy to the Superintending Engineer and the Chief Engineer, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected hereunder.

10.5.3 In the event of the failure of the Contractor to issue to the Engineer-in-Charge a notice in accordance with the provisions of Clause 10.5.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this clause 10.5.3, the Authority shall be discharged from all liability in connection with the claim.

10.5.4 The Engineer-in-Charge shall, on receipt of the claim in accordance with the provisions of Clause 10.5.2, examine the claim expeditiously within the time frame specified herein. In the event the Engineer-in-Charge requires any clarifications to examine the claim, the Engineer-in-Charge shall seek the same within 7 (seven) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Engineer-in-Charge requesting for clarification, furnish the same to the Engineer-in-Charge within 10 (ten) days thereof. The Engineer-in-Charge shall, within a period of 7 (seven) days from the date of receipt of such clarifications obtain the permission of the Chief Engineer and then forward in writing to the Contractor its determination of Time Extension;

provided that when determining each extension of time under this Clause 10.5, the Engineer-in-Charge shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

10.5.5 If the event or circumstance giving rise to the notice has a continuing effect:

- (a) a fully detailed claim shall be considered as interim;
- (b) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Engineer-in-Charge may reasonably require; and

- (c) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Engineer-in-Charge shall examine the same in accordance with the provisions of Clause 10.5.4 within a period of 60 (sixty) days of the receipt thereof.

**10.6 Incomplete Works**

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavor to complete the balance work expeditiously and shall pay Damages to the Authority in accordance with the provisions of Clause 10.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination under Clause 22.1.

**10.7 Operation & Maintenance Manual**

No later than 60 (sixty) days prior to the Project Completion Date, the Contractor shall, in consultation with the Engineer-in-Charge, evolve an operation & maintenance manual (the "Operation and Maintenance Manual") for the regular and preventive maintenance and smooth running of the Project in conformity with the Specifications and Standards, safety requirements and Good Industry Practice, and shall provide 4 (four) copies thereof to the Engineer-in-Charge. The Engineer-in-Charge shall review the Operation & Maintenance Manual within 15 (fifteen) days of its receipt and communicate its comments to the Contractor for necessary modifications, if any, with approval of the Chief Engineer of the Project.

## ARTICLE 11

### QUALITY ASSURANCE, MONITORING AND SUPERVISION

#### 11.1 **Quality of Materials and workmanship**

The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

#### 11.2 **Quality control system**

11.2.1 The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the "Quality Assurance Plan" or "QAP").

11.2.2 The Contractor shall, within 15 (fifteen) days of the Appointed Date, submit to the Engineer-in-Charge its Quality Assurance Plan which shall include the following:

- (a) organisation, duties and responsibilities, procedures, inspections and documentation;
- (b) quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications Good Industry Practice; and
- (c) Internal Quality Audit System.

The Engineer-in-Charge shall convey its comments to the Contractor within a period of 15 (fifteen) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 11.2.

11.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets and workmanship in accordance with the Quality Assurance Plan.

11.2.4 The cost of testing of Construction, Materials and workmanship under this Article 11 shall be borne by the Contractor.

#### 11.3. **Methodology**

The Contractor shall, at least 15 (fifteen) days prior to the commencement of the construction, submit to the Engineer-in-charge for review the methodology proposed to be adopted for executing the Works, giving details of equipment to be deployed, management and measures for ensuring safety. The Engineer-in-Charge shall complete the review and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

#### 11.4. **Inspection and Technical Audit by the Authority/Department**

The Chief Engineer of the Project or any representative of the Authority on this behalf may inspect and review the progress and quality of the execution of Project and issue appropriate directions to the Engineer-in-Charge and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

#### 11.5 **External Technical Audit**

At any time during construction, the Authority may appoint an external Technical Auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Engineer-in-Charge for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 11.5, the external technical audit shall not affect any obligations of the Contractor or the Engineer-in-Charge under this Agreement.

#### 11.6 **Inspection of construction records**

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

#### 11.7 **Monthly progress reports**

During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Authority and the Engineer-in-Charge a monthly report on progress of the Works and shall promptly give such other relevant information as may be required by the Engineer-in-Charge.

## 11.8 Inspection

- 11.8.1 The Engineer-in-charge and its authorised representative shall at all reasonable times:
- (a) have full access to all parts of the Site and to all places from which construction Materials are being obtained for use in the Works; and
  - (b) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials/sub-components.
- 11.8.2 The Contractor shall give the Engineer-in-Charge and its authorised agents access, facilities and safety equipment for carrying out their obligations under this Agreement.
- 11.8.3 The Engineer-in-Charge shall submit a monthly inspection report (the "Inspection Report") to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Engineer-in-charge shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

## 11.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Engineer-in-Charge for pre-construction review:

- (a) manufacturer's test reports and standard samples of manufactured Materials; and
- (b) samples of such other Materials as the Engineer-in-charge may require.

## 11.10 Tests

- 11.10.1 For determining that the Works conforming to the Specifications and Standards, the Engineer-in-Charge shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner in accordance with Good Industry Practice for quality assurance. The test checks by the Engineer-in-Charge shall comprise at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.
- 11.10.2 In the event that results of any tests conducted under this Clause 11.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Engineer-in-charge in this behalf. The Engineer-in-charge shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and remedial measures in pursuance thereof shall be solely borne by the Contractor.
- 11.11 Examination of work before covering up (embedded portions)  
In respect of the work which the Engineer-in-Charge is entitled to examine, inspect, measure and/or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Engineer-in-charge whenever any such work is ready and before it is covered up. The Engineer-in-Charge shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer-in-Charge does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Engineer-in-Charge to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Engineer-in-charge within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Engineer-in-Charge, the Contractor shall be entitled to assume that the Engineer-in-Charge would not undertake the said inspection.
- 11.12 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 provisions of this Agreement, the Engineer-in-Charge shall reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

If the Engineer-in-charge requires the Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such cost shall be recoverable

by the Authority from the Contractor; and may be deducted by the Engineer-in-charge from any amount due to be paid to the Contractor.

11.13 Remedial work

- 11.13.1 Notwithstanding any previous test or certification, the Engineer-in-Charge may instruct the Contractor to:
- (a) Remove from the Site and replace any Machineries or Material which are not in accordance with the provisions of this Agreement;
  - (b) Remove and re-execute any work which is not in accordance with the Provisions of this Agreement and the Specification and Standards;
- And,
- (c) execute any work, which, if urgently required for the safety of the Project, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.
- 11.13.2 If the Contractor fails to comply with the instructions issued by the Engineer-in-Charge under Clause 11.13.1, within the time specified in the Engineer-in-charge's notice or as mutually agreed, the Engineer-in-charge may have the work executed by another agency with prior written approval of Superintending Engineer & Chief Engineer under intimation to the contractor. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.
- 11.14 **Delays during construction**  
Without prejudice to the provisions of Clause 10.3.2, in the event the Contractor does not achieve any of the **Project Milestones** or the Engineer-in-Charge shall have reasonably determined that the rate of progress of Works is such that Completion of the Project is not likely to be achieved by the end of the Scheduled Completion Date, it shall notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Engineer-in-charge in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.
- 11.15 **Quality control records and Documents**  
The Contractor shall hand over to the Engineer-in-Charge a copy of all its quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2.
- 11.16 **Video recording**  
During the Construction Period, the Contractor shall provide to the Engineer-in-Charge for every calendar quarter, a video recording, which will be compiled into a 3 (three)-hour compact disc or digital video disc, as the case may be, covering the status and progress of Works in that quarter. The video recording shall be provided to the Engineer-in-charge no later than 15 (fifteen) days after the close of each quarter after the Appointed Date.
- 11.17 **Suspension of unsafe Construction/substandard work**
- 11.17.1 Upon recommendation of the Engineer-in-charge to this effect, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Engineer-in-Charge, such work threatens the safety of the Users and pedestrians.
- 11.17.2 The Contractor shall, pursuant to the notice under Clause 11.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Engineer-in-charge and thereupon carry out remedial measures to secure the safety of suspended works, the Users and pedestrians. The Contractor may by notice require the Engineer-in-Charge to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Engineer-in-charge, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 11.17 shall be repeated until the suspension hereunder is revoked.
- 11.17.3 Subject to the provisions of Clause 20.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the "**Preservation Costs**"), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.
- 11.17.4 If suspension of Works is for reasons not attributable to the Contractor, the Engineer-in-charge shall determine any Time Extension to which the Contractors reasonably entitled.

## ARTICLE 12

### COMPLETION CERTIFICATE

#### 12.1 Tests or Trial run of the project on completion

- 12.1.1 At least 30 (thirty) days prior to the likely completion of the Project, or a Section thereof, the Contractor shall notify the Engineer-in-Charge of its intent to subject the Project or a Section thereof, of trial operation of the Project. The date and time of each of the trial operation of the Project shall be determined by the Engineer-in-Charge in consultation with the Contractor, and notified to the Chief Engineer who along with the Superintending Engineer may witness the trial run. The Contractor shall either conduct the Tests/Trial run as directed by the Engineer-in-Charge or provide such assistance as the Engineer-in-charge may reasonably require for conducting the trial operation of the Project. In the event of the Contractor and the Engineer-in-Charge failing to mutually agree on the dates for conducting the Tests/Trial run, the Contractor shall fix the dates by giving not less than 7 (seven) days' notice to the Engineer-in-Charge.
- 12.1.2 All the trial operation of the Project or Tests shall be conducted in accordance with the **Schedule-K**. The Engineer-in-Charge shall either conduct or observe, monitor and review the Tests conducted by the Contractor, as the case may be, and review the results of the Tests to determine compliance of the sub component of the Project or a Section thereof, with Specifications and Standards and if it is reasonably anticipated or determined by the Engineer-in-Charge during the course of any Test that the performance of the Project or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify the Defect or deficiencies. Upon completion of each Test, the Engineer-in-Charge shall provide to the Contractor and the Engineer-in-charge, copies of all Test data including detailed trial operation of the Project and the System results. For the avoidance of doubt, it is expressly agreed that the Engineer-in-Charge may require the Contractor to carry out or cause to be carried out additional trial operation of the Project, in accordance with the Specifications and standards contained in the RFP & BOQ as a part of the Agreement, for determining the compliance of the Project or Section thereof with the Specifications and standards.

#### 12.2 Provisional Certificate

- 12.2.1 Subject to the provisions of Clause 12.2.5, upon completion of all Works forming part of the Project, save and except the Works for which Time Extension has been granted under Clause 10.5, the Engineer-in-Charge shall, at the request of the Contractor, issue a provisional certificate of completion substantially in the form set forth in Schedule-L (the "Provisional Certificate") if the trial run for and in respect of the also all other sub components of work are completed and are successful. The Provisional Certificate shall have appended thereto a list of outstanding items of work (the "**Punch List**") that need to be completed in accordance with the provisions of this Agreement. The Contractor undertakes to complete the minor outstanding items of works in respect of those Sections of the Project for which the Provisional Certificate has been issued, within a period of 30 (thirty) days of the date of Provisional Certificate, and those parts of the Works in respect of which Time Extension has been granted, within the extended period thereof. For the avoidance of doubt, the Parties agree that the Punch List shall include all Works for which Time Extension has been granted and shall also include any minor outstanding items of work forming part of the completed Sections if such works do not materially affect the use of the completed Sections for their intended purpose. The Parties further agree that Provisional Certificate shall not be issued if the completed Works cannot be safely and reliably placed in service of the Users thereof.
- 12.2.2 Upon issue of Provisional Certificate, the provisions of Articles 14 and 16 shall apply to the completed parts of the Project and the property and ownership of all such completed Works shall vest in the Authority and the Department.
- 12.2.3 If the Engineer-in-Charge determines that the Project or any completed part thereof does not conform to the provisions of this Agreement and cannot be safely and reliably placed in operation, it shall forthwith make a report in this behalf and send copies thereof to the Authority and the Contractor and withhold issuance of the Provisional Certificate until the Defects or deficiencies are rectified by the Contractor and trial run are successful in accordance with this Article 12.

- 12.2.4 Notwithstanding anything to the contrary contained in Clause 12.2.3, the Authority may, at any time after receiving a report from the Engineer-in-Charge under that Clause, direct the Engineer-in-Charge to issue a Provisional Certificate under Clause 12.2.1 and such direction shall be complied forthwith.
- 12.2.5 No Provisional Certificate shall be issued under the provisions of this Clause 12.2 until the Contractor has submitted valid claims for payment of at least 80% (eighty per cent) of the amount arrived at after reducing the lump sum price specified in Clause 18.1.1 by the amount attributable to works which have been withdrawn under the provisions of Clause 8.3.3. For the avoidance of doubt and by way of illustration, the Parties agree that if the Contract Price specified in Clause 18.1.1 is Rs. 105 cr. (Rs. one hundred and five crore) and the works withdrawn under Clause 8.3.3 have a value of Rs. 5 cr. (Rs. five crore), a Provisional Certificate shall not be issued until valid claims for payment of an amount of Rs. 80 cr. (Rs. eighty crore) have been submitted by the Contractor in accordance with the provisions of this Agreement. It is further agreed that all price adjustments made in pursuance of Clause 18.10 shall not be reckoned for computation of the claims for payments referred to in this Clause 12.2.5.
- 12.3 **Completion of remaining Works**  
All items in the Punch List shall be completed by the Contractor in accordance with the provisions of this Agreement. For any delay in their completion other than for the reasons solely attributable to the Authority or due to 'Force Majeure', the Authority shall be entitled to recover Damages from the Contractor in accordance with the provisions of Clause 10.3.2 of this Agreement.
- 12.4 **Completion Certificate**
- 12.4.1 Upon completion of all Works, including the items specified in the Punch List, and the Engineer-in-Charge determining the Tests to be successful, it shall forthwith issue to the Contractor and the Authority a certificate substantially in the form set forth in Schedule-L (the "Completion Certificate").
- 12.4.2 Upon receiving the Completion Certificate, the Contractor shall remove its equipment, materials, debris and temporary works labour campus, stake-yards, other installation from the Site within a period of 30 (thirty) days thereof, failing which the Authority may remove or cause to be removed, such equipment, materials, debris and temporary works and recover from the Contractor an amount equal to 120% (one hundred and twenty per cent) of the actual cost of removal incurred by the Authority.
- 12.4.3 Without prejudice to the obligations of the Contractor specified in Articles 14 and 16, the property and ownership of all the completed Works forming part of the Project shall vest in the Authority.
- 12.5 **Rescheduling of trial run of the Project**
- If the Engineer-in-Charge is unable to issue the Completion Certificate or Provisional Certificate, as the case may be, because of events or circumstances on account of which the trial run operation could not be delivered smooth function as required as per Terms & Conditions of the Project Agreement, the Contractor shall be entitled to re-schedule the trials and hold the same as soon as reasonably practicable with prior written intimation or at least 3 (three) days before next trial.

## **ARTICLE 13**

### **CHANGE OF SCOPE**

#### **13.1 Change of Scope**

13.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications/alterations to the Works ("**Change of Scope**") before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article 13.

13.1.2 Change of Scope shall mean:

- (a) change in specifications of any item of Works;
- (b) omission of any work from the Scope of the Project except under Clause 8.3; provided that, subject to Clause 13.5, the Authority shall not omit any work under this Clause in order to get it executed by any other Authority; and / or
- (c) any additional work, Plant, Materials or services which are not included in the Scope of the Project, including any associated Tests on completion of construction.

13.1.3 If the Contractor determines at any time that a Change of Scope will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Authority of executing, maintaining or operating the Project, (iii) improve the efficiency or value to the Authority of the completed Project, or (iv) otherwise be of benefit to the Authority, it shall prepare a proposal with relevant details at its own cost. The Contractor shall submit such proposal, supported with the relevant details and the amount of reduction in the Contract Price to the Authority to consider such Change of Scope. The Authority shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefore in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision. For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without the express written consent of the Chief Engineer of the project, save and except any Works necessary for meeting any Emergency or Force Majeure.

#### **13.2 Procedure for Change of Scope**

13.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Engineer-in-Charge to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated there under (the "Change of Scope Notice").

13.2.2 Upon receipt of a Change of Scope Notice, the Contractor shall, with due diligence, provide to the Authority and the Engineer-in-Charge such information as is necessary, together with preliminary documentation in support of:

- (a) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the works or services are required to be carried out during the Construction Period; and
- (b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including the following details:
  - (i) break down of the quantities, unit rates and cost for different items of work;
  - (ii) proposed design for the Change of Scope; and
  - (iii) proposed modifications, if any, to the Project Completion Schedule of the Project.

For the avoidance of doubt, the Parties expressly agree that, subject to the provisions of Clause 13.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of Change of Scope.

13.2.3 The Contractor's quotation of costs for the Change of Scope shall be determined on the following principles:

- (a) For works where Schedule of Rates (SOR) of Irrigation & Waterways Directorate State's Public Works Department are available shall be applicable for determination of costs.



- (b) If none of the above is available, then the contractor would submit a supplementary tender along with quantities, rates and item specification with analysis for consideration of the Engineer-in-Charge. The total value of work including supplementary tender should in no case exceed the maximum limit of 5% of the bid price.
- (c) In that case prior approval of the Government would be required for any increase over original bid price of the project.

13.2.4 Upon reaching an agreement, the Chief Engineer of the project shall issue an order (the "Change of Scope Order") requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Chief Engineer of the project may:

- (a) issue a 'Change of Scope Order' requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with Article 25; or

13.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply mutatis mutandis to the works undertaken by the Contractor under this Article 13.

### 13.3 **Payment for Change of Scope**

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

### 13.4 **Restrictions on Change of Scope**

13.4.1 No Change of Scope shall be executed unless the Chief Engineer has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.

13.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 5 (five) per cent of the Contract Price.

13.4.3 Notwithstanding anything to the contrary in this Article 13, no change made necessary because of any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

## ARTICLE 14

### MAINTENANCE DURING DEFECT LIABILITY PERIOD

#### 14.1 Maintenance obligations of the Contractor

14.1.1 The Contractor shall maintain the Project for a period of ..... years commencing from the date of the Provisional Certificate or the date of completion of original project (the "Maintenance Period"). For the performance of its Maintenance obligations, the Contractor shall not be entitled to any separate payment for the defect liability Period. Amount shall be, inclusive of all taxes. For the avoidance of doubt, it is agreed that in the event no Provisional Certificate is issued, the Maintenance Period shall commence from the date of the Completion Certificate.

14.1.2 During the defect liability period, the Authority shall provide to the Contractor access to the Site for Maintenance in accordance with this Agreement. The obligations of the Contractor hereunder shall include:

- (a) permitting safe, smooth and uninterrupted functioning of the operation of the Project;
- (b) undertaking routine maintenance including prompt servicing of equipments, installations, tool and plants
- (c) undertaking prompt repairs to system & equipments ;
- (d) Safely securing and protecting including guarding from pilferage and theft or of any unauthorized use of the Project;
- (e) informing the Authority of any theft, pilferage, encroachment on the Project; and
- (f) operation and maintenance of all systems, control room upkeep, running maintenance, communication, patrolling to guard the various equipments and administrative actions necessary for the efficient maintenance of the Project in accordance with the provisions of this Agreement.

14.1.3 In respect of any Defect or deficiency not specified in **Schedule-E**, the Contractor shall, at its own cost, undertake repair or rectification in accordance with Good Industry Practice, save and except to the extent that such Defect or deficiency shall have arisen on account of any default or neglect of the Authority or a Force Majeure Event.

14.1.4 The Contractor shall remove promptly from the Project any waste materials (including hazardous materials), rubbish and other debris (including, without limitation, accident debris) and keep the Project Area in a clean, tidy and orderly condition, and in conformity with the Applicable Laws, Applicable Permits and Good Industry Practice.

#### 14.2 Maintenance Requirements

The Contractor shall ensure and procure that at all times during the Maintenance Period, the Project conforms to the defect liability & operation maintenance requirements set forth in **Schedule-E** (the "Maintenance Requirements").

#### 14.3 Maintenance Programme

14.3.1 The Contractor shall prepare a monthly maintenance programme (the Maintenance Programme") in consultation with the Engineer-in-charge and submit the same to the Engineer-in-Charge not later than 10 (ten) days prior to the commencement of the month in which the Maintenance is to be carried out. For this purpose a joint monthly inspection by the Contractor and the Engineer-in-Charge shall be undertaken. The Maintenance Programme shall contain the following:

- (a) Instruction issued by the Engineer-in-charge;
- (b) the proposed maintenance works; and
- (c) deployment of resources for maintenance works.

#### 14.4 Safety, break down of systems and accidents & disaster management device

14.4.1 The Contractor shall ensure safe and smooth operation of gates, and in the event of unsafe conditions, to avert total system breakdowns and accidents, it shall follow the relevant operating procedures for recovery without delay. Such procedures shall conform to the provisions of this Agreement and Good Industry Practice.

- 14.5.1 The Contractor shall not fully close the Project site for undertaking construction or repair and maintenance works except with the prior written approval of the Engineer-in-charge. Such approval shall be sought by the Contractor through a written request to be made at least 3 (three) days before the proposed closure of bridge or a lane and shall be accompanied by particulars thereof. Within 2 (two) business days of receiving such request, the Engineer-in-Charge shall grant permission with such modifications as it may deem necessary and a copy of such permission shall be sent to the Authority.
- 14.5.2 Upon receiving the permission pursuant to Clause 14.5.1, the Contractor shall be entitled to close the Bridge fully or a lane for the period specified therein, and in the event of any delay in re-opening such lane, the Contractor shall, for every stretch of 250 (two hundred and fifty) metres, or part thereof, pay Damages to the Authority calculated at the rate of 0.1% (zero point one per cent) of the monthly maintenance payment for each day of delay until the lane has been re-opened for traffic.
- 14.6 **Reduction of payment for non-performance of Maintenance during defect liability period and defect liability obligations**
- 14.6.1 In the event that the Contractor fails to repair or rectify any Defect or deficiency set forth in **Schedule-E** within the period specified therein, it shall be deemed as failure of performance of Maintenance obligations by the Contractor and the Authority shall be entitled to effect reduction in monthly lump sum payment for maintenance in accordance with Clause 18.7 and **Schedule-M**, without prejudice to the rights of the Authority under this Agreement, including Termination thereof and forfeit of Performance Security.
- 14.6.2 If the nature and extent of any Defect justifies more time for its repair or rectification than the time specified in **Schedule-E**, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Engineer-in-Charge and conveyed to the Contractor and the Chief Engineer of the project with reasons thereof.
- 14.7 **Authority's right to take remedial measures**
- In the event the Contractor does not maintain and/or repair the Project or any part thereof in conformity with the Maintenance Requirements, the Maintenance Manual or the Maintenance Programme, as the case may be, and fails to commence remedial works within specified schedule contained under Clause 7 of Specifications chapter of the Agreement which shall be extended maximum to 15 days of receipt of the Maintenance Inspection Report under Clause 15.2 or a notice in this behalf from the Authority or the Engineer-in-Charge, as the case may be, the Authority shall, without prejudice to its rights under this Agreement including Termination thereof, be entitled to undertake such remedial measures at the cost of the Contractor, and to recover its cost from the Contractor. In addition to recovery of the aforesaid cost, a sum equal to 20% (twenty per cent) of such cost shall be paid by the Contractor to the Authority as Damages and the 'Retention Money' with the Authority will be forfeited.
- 14.8 **Restoration of loss or damage to Project**
- Save and except as otherwise expressly provided in this Agreement, in the event that the Project or any part thereof suffers any loss or damage during the Maintenance from any cause attributable to the Contractor, the Contractor shall, at its cost and expense, rectify and remedy such loss or damage forthwith so that the Project conforms to the provisions of this Agreement or else the Performance Security is liable to be forfeited.
- 14.9 **Overriding powers of the Authority**
- 14.9.1 If in the reasonable opinion of the Authority, the Contractor is in material breach of its obligations under this Agreement and, in particular, the Maintenance Requirements, and such breach is causing or likely to cause material hardship or danger to the Users and pedestrians, the Authority may, without prejudice to any of its rights under this Agreement including Termination thereof, by notice require the Contractor to take reasonable measures immediately for rectifying or removing such hardship or danger, as the case may be.
- 14.9.2 In the event that the Contractor, upon notice under Clause 14.9.1, fails to rectify or remove any hardship or danger within a reasonable period, the Authority may exercise overriding powers under this Clause 14.9.2 and take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it for rectifying or removing such hardship or danger; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required hereunder; provided further that any costs and expenses incurred by the Authority in discharge of its obligations hereunder shall be recovered by the Authority from the Contractor, and the Authority shall be entitled to deduct any such costs and expenses incurred from the payments due to the Contractor under Clause 18.7 for the performance of its Maintenance obligations.

14.9.3 In the event of a national emergency, civil commotion or any other circumstances specified in Clause 20.3, the Authority may take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it, and exercise such control over the Project or give such directions to the Contractor as may be deemed necessary; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required in the circumstances which caused the exercise of such overriding power by the Authority. For the avoidance of doubt, it is agreed that the consequences of such action shall be dealt in accordance with the provisions of Article 20.

It is also agreed that the Contractor shall comply with such instructions as the Authority may issue in pursuance of the provisions of this Clause 14.9.3, and shall provide assistance and cooperation to the Authority, on a best effort basis, for performance of its obligations hereunder.

## ARTICLE 15

### **SUPERVISION AND MONITORING DURING MAINTENANCE (DEFECT LIABILITY PERIOD & DEFECT LIABILITY PERIOD)**

#### **15.1 Inspection by the Contractor**

- 15.1.1 The Engineer-in-Charge shall undertake regular inspections to evaluate continuously the compliance with the Operation & Maintenance Requirements.
- 15.1.2 The Contractor shall carry out a detailed inspection in accordance with the guidelines contained in the BIS code or the Manual. Report of this inspection together with details of proposed maintenance works as required shall be conveyed to the Engineer-in-Charge forthwith. The Contractor shall complete the proposed maintenance works as per maximum recovery time given under Clause 7 of Technical Specification of Agreement send compliance reported to the Engineer-in-charge. Inspection shall be undertaken by the Contractor and the inspection report together with details of any damages observed and action taken to remedy the same shall be conveyed to the Engineer-in-Charge forthwith.

#### **15.2 Inspection and payments**

- 15.2.1 The Engineer-in-Charge may inspect the Project at any time, but at least once every month, to ensure compliance with the Maintenance Requirements. It shall make a report of such inspection ("Maintenance Inspection Report") stating in reasonable detail the Defects or deficiencies, if any, with particular reference to the Maintenance Requirements, the Maintenance Manual, and the Maintenance Programme, and send a copy thereof to the Chief Engineer, Superintending Engineer and the Contractor within 7 (seven) days of such inspection.
- 15.2.2 After the Contractor submits to the Engineer-in-Charge the Monthly Maintenance Statement for the Project pursuant to Clause 18.6, the Engineer-in-Charge shall carry out an inspection within 7 (seven) days to certify the amount payable to the Contractor. The Engineer-in-Charge shall inform the Contractor of its intention to carry out the inspection at least 3 (three) business days in advance of such inspection. The Contractor shall assist the Engineer-in-charge in verifying compliance with the Maintenance obligations.
- 15.2.3 For each case of non-compliance of Maintenance Obligations as specified in the inspection report of the Engineer-in-Charge, the Engineer-in-Charge shall calculate the amount of reduction in payment in accordance with the formula specified in Schedule-M.
- 15.2.4 Any deduction made on account of non-compliance will not be paid subsequently even after establishing the compliance thereof. Such deductions will continue to be made every month until the compliance is procured.

#### **15.3 Tests**

For determining that the Project conforms to the Maintenance Requirements, the Engineer-in-Charge shall require the Contractor to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. The Contractor shall, with due diligence, carry out or cause to be carried out all such tests in accordance with the instructions of the Engineer-in-Charge and furnish the results of such tests forthwith to the Engineer-in-Charge.

#### **15.4 Reports of unusual occurrence**

The Contractor shall, during the Maintenance Period, prior to the close of the day, send to the Chief Engineer the Superintending Engineer and the Engineer-in-Charge, by facsimile or e-mail, a report stating accidents and unusual occurrences on the Project relating to the safety and security of the Project premises. A monthly summary of such reports shall also be sent within 3 (three) business days of the closing of month. For the purposes of this Clause 15.4, accidents and unusual occurrences on the Project shall include:

- (a) accident, death or severe injury to any person;
- (b) damaged or dislodged fixed equipment;
- (c) flooding of Project area; and
- (d) any other unusual occurrence.

**ARTICLE 16**  
**DEFECTS LIABILITY**

**16.1 Defects Liability Period**

16.1.1 The Contractor shall be responsible for all the Defects and deficiencies, in the Project or any Section thereof, till the expiry of the Defects Liability Period commencing from the date of Provisional Certificate (the "Defects Liability Period"), provided that the Defects Liability Period shall in no case be less than 72 (seventy two) months from the date of Completion Certificate for and in respect of works for which Time Extension was granted, provided further that in the event no Provisional Certificate is issued, the Defects Liability Period shall commence from the date of the Completion Certificate. For the avoidance of doubt, any repairs or restoration in the Project or any Section thereof shall form a part of the Maintenance obligations of the Contractor as specified in Article 14.

**16.2 Remedying Defects**

Save and except as provided in Clause 14.1.2, the Contractor shall repair or rectify all Defects and deficiencies observed by the Engineer-in-Charge or his representatives during the Defects Liability Period within a period specified under Clause 7 of Technical Specifications of this Agreement from the date of notice issued by the Engineer-in-Charge in this behalf, or within such reasonable period as may be determined by the Engineer-in-Charge at the request of the Contractor, in accordance with Good Industry Practice.

**16.3 Cost of remedying Defects**

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 16.2, including any additional testing, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

- (a) the design of the of Project;
- (b) Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- (c) improper maintenance during construction of the Project by the Contractor; and/ or
- (d) failure by the Contractor to comply with any other obligation under this Agreement.

**16.4 Contractor's failure to rectify Defects**

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 16.2, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost so as to make the Project conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be determined by the Engineer-in-Charge. The cost so determined and an amount equal to twenty percent of the cost as Damages shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

**16.5 Contractor to search cause**

16.5.1 The Engineer-in-Charge may instruct the Contractor to examine the cause of any Defect in the Works or part thereof before the expiry of the Defect liability Defects Liability Period.

16.5.2 In the event any Defect identified under Clause 16.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Engineer-in-charge, and shall bear the cost of the examination and rectification of such Defect.

16.5.3 In the event such Defect is not attributable to the Contractor, the Engineer-in-Charge shall, after due consultation with the Chief Engineer and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Superintending Engineer, and the Contractor shall be entitled to payment of such costs by the Government.

16.5.4 If the contractor fails to rectify the defect, in addition to Clause 16.5.3, ties 'Retention Money' lying with the Authority will be liable to be forfeited.

**16.6. Extension of Defects Liability Period**

The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 16.2 have been remedied within the defect liability period.

## ARTICLE 17

### DEFINITION OF AUTHORITY AND ENGINEER-IN-CHARGE

#### 17.1 DUTIES OF OFFICERS OF THE IRRIGATION AND WATERWAYS DIRECTORATE.

##### I. Chief Engineer

- 17.1.1. The Chief Engineer is the administrative and professional Head of the Project, and is responsible to the Governor for the efficient working of the Project thereof. He is the responsible professional adviser of Government in all matters relating to Public Works, or to the total branch he is in charge.
- 17.1.2. It will be the duty of the Chief Engineer to recommend to Government Appointed Departmental Tender Committee (DTC) the L1 bid offer after having got clearance of the QBEC. The Chief is also a member of the DTC as such he is required to undertake quick actions so that the L1 bid received in the EPC-RFP is then along with comments of DTC is placed before the Department for a formal Administrative Approval not later than 30 days from the Bid opening date After obtaining such approval from the Department the Chief Engineer will issue the LOA to the L1 bidder and instruct the Authority and the Engineer-in-charge to complete the Agreement formalities and AOC.
- 17.1.3 The Chief Engineer will monitor the budget estimates relating to the Project, and also prepare, as soon as possible after the close of each year, a report of the progress made during that period on works under his charge, giving a brief but clear account of the operation.
- 17.1.4 The Chief Engineer will have no Authority over the Audit Officer in regard to audit matters, but will have a claim on him for assistance and advice in matters relating to accounts and finance. At the same time the Chief Engineer will be bound to arrange that the Audit Officer is kept fully cognizant of all proceeding and proposals to enable the latter to fulfill his functions.
- 17.1.5 The Chief Engineer is the highest authority of the Department in terms of Technical advises & guidance. The Chief Engineer is the Chairman of the Quotation-cum-Bid Evaluation Committee (QBEC)
- 17.1.6 In regard to matters relating to finance and accounts, the Chief Engineer will-
- (a) exercise a concurrent control, with the Audit Officer, over the duties of the officers of the Department in maintaining accounts and give legitimate support to the Audit Officer in enforcing strict attention to the rules concerning the disbursement of money, the custody of stores and submission of accounts;
  - (b) see that the budget appropriations of the year are fully expended in so far as is consistent with general economy and the prevention of large expenditure in the closing months of the year for the sole purpose of avoiding lapses;
  - (c) be responsible for ensuring that any money which is not likely to be needed during the year is promptly surrendered, so as to allow of its appropriation for other purposes by the proper authority; and
  - (d) see that materials required for the preparation of budget estimates of receipts and expenditure of a year by the Finance Department, as well as reports of progress made on works in charge of the Directorate are furnished by the subordinate authorities punctually by the prescribed dates.

##### II. Superintending Engineer identified as 'the Authority'

- 17.2.1. The administrative unit of the Directorate is the Circle, in charge of a Superintending Engineer, who is responsible to the Chief Engineer for the administration and general professional control of the Project and in charge of officers within his Circle. The Superintending Engineer in charge of the Project is defined and identified as **'the Authority' in the EPC Agreement.**
- 17.2.2. It is the duty of the Superintending Engineer '**the Authority**' to inspect the state of the works and to satisfy himself that the system of management prevailing is efficient and economical. Besides regular tours of inspection it is also the duty of Superintending Engineer to proceed to report on any important design or work, or on any serious accident or threatened danger connected with the works.
- 17.2.3 The Superintending Engineer as '**the Authority**' is required to ascertain and report on the efficiency of the subordinate, office, and petty establishment, and to see that the staff employed in the Project is actually necessary and adequate for its management.
- 17.2.4 The Superintending Engineer is also a member of the Departmental Quotation-cum-Bid Evaluation Committee for the EPC. He is also a member of the DTC. He is the Request for Proposal inviting Authority. He would represent

the Government in all matters relating to the Request for Proposal, Bid process, holding of Pre-bid meetings as the Departmental Authority. .

- 17.2.5 A Superintending Engineer as 'the Authority' is authorized to correspond direct with any of the local police and administrative authorities, civil or military, within his Circle. He will address General Officer Commanding Divisions or Brigades, through their Staff Officers, and all other officers direct.

### III. Executive Engineer designated and identified as the Engineer-in-charge

- 17.3.1. The executive unit of the Directorate is the Division, in charge of an Executive Engineer, who is responsible to the Superintending Engineer for the execution and management of the Project. An Executive Engineer is designated as the Engineer-in-charge of the Project. If there are more than one Executive Engineer engaged in the Project, the Chief Engineer of the Project will determine who will function as the Engineer-in-Charge.
- 17.3.2. An Executive Engineer can receive positive orders only from his own departmental superiors, ie the Chief Engineer or the Superintending Engineer only.
- 17.3.3. Executive Engineers are responsible to supervise plan monitor prepare payment bills and implement the Project at the site.
- 17.3.4. Executive Engineer is required to report to the Authority on any important accident or unusual occurrence connected with the Project, and to state how he has acted in consequence.
- 17.3.5. The Executive Engineer or the Engineer- in-charge will-
- (a) not commence the construction of any work or spend public funds without the sanction of competent authority;
  - (b) close the accounts immediately the work is finished, and prepare the Completion Report, if required by the rules;
  - (c) take the necessary steps for obtaining fund allocation for the Project, keep their accounts and submit them punctually to the audit office under the rules for the time being in force;
  - (d) exercise a through and efficient control and check over their accountants, and carefully examine the papers; and
  - (e) be responsible for the correctness, in all respects of the original records of payment of works bills, contingency and stores, receipts and expenditure and for seeing that complete vouchers are obtained.
- 17.3.6 The Engineer-in-Charge shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, and substantially in accordance with the terms of reference ("Terms of Reference" or "TOR") set forth in Annex 1 of Schedule N, but subject to obtaining prior written approval of **Chief Engineer of the Project** before determining:
- (a) Any Time Extension;
  - (b) Any additional cost to be paid to the Contractor;
  - (c) the Termination Payment; or
  - (d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 10,000 (Rs. Zero point one zero lakh).
- 17.3.7 All directions and decisions or communications of the Engineer-in-Charge shall be effective or valid only if it is taken and communicated with the approval of the Chief Engineer for and in respect of any matter specified in Clause 17.3.6.
- 17.3.8 The Engineer-in-Charge shall submit regular periodic reports, at least once every month to the Chief Engineer in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Engineer-in-Charge within 10 (ten) days of the beginning of every month.
- 17.3.9 Delegation of technical and financial powers by the Engineer-in-Charge to other sub ordinates or superior authorities is not generally permitted.
- 17.3.10 However, the Engineer-in-Charge may, by order in writing, delegate any of his duties and responsibilities to the Assistant Engineer/s and, or may revoke any such delegation, under intimation to the Superintending Engineer and the Contractor.



- 17.3.11 Any failure of the Engineer-in-Charge to disapprove any work, plant or Materials shall constitute approval of the Authority, and shall therefore the contractor cannot dispute or raise complaints with the Authority, for Plant or Materials, which is not in accordance with the provisions of this Agreement and the Specifications and Standards.
- 17.3.12 Notwithstanding anything stated in Clause 17.3.10 above, the Engineer-in-Charge shall not delegate the power to refer any matter for the Authority's prior approval wherever required in accordance with the provisions of Clause 17.3.6.

#### **IV. Assistant Engineers & Junior Engineers**

- 17.4.1. The division is divided into Sub-divisions in charge of Sub-divisional Officers who are Assistant Engineers or Assistant Engineers under control of whom Junior Engineers or such officers are available. Both are subordinate Engineers who are responsible to the Executive Engineer in charge for the supervision, management and preparation of payment bills, reports of the Project.

## Part IV

### Financial Covenants

## ARTICLE 18

### PAYMENTS

#### 18.1 Contract Price

- 18.1.1 The Engineer-in-charge shall make payments to the Contractor for the Works on the basis of the lump sum bid price accepted by the Chief Engineer on the basis of recommending of QBEC and DTC in consideration of the obligations specified in this Agreement for an amount of Rs. .... (Rs. ....) (the “**Contract Price**”), which shall be subject to adjustments in accordance with the provisions of this Agreement. For the avoidance of doubt, the Parties expressly agree that the Contract Price shall also include the cost of Operation & Maintenance including defect liability which shall be paid separately in accordance with the provisions of Clause 18.7. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of final Completion Certificate after successful completion of all contractual obligations by the Contractor after Defect Liability Period.
- 18.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the services performed under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.
- 18.1.3 The Contract Price shall not be adjusted for any change in costs stated in Clause 18.1.2 above, except as stated in Clauses 18.10.
- 18.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.
- 18.1.5 Unless otherwise stated in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction and the remedying of any Defects in the Project.
- 18.1.6 All payments under this Agreement shall be made in Indian Rupees.

#### 18.2 Advance Payment is not permitted except billed against work already completed.

#### 18.3 Procedure for estimating the payment for the Works

- 18.3.1 The Authority shall make interim stage payments to the Contractor as certified by the Engineer-in-Charge on completion of a stage, in a sub component, number or area as specified in the BOQ, and valued in accordance with the proportion of the Contract Price assigned to each item and its stage in **Schedule-H**.
- 18.3.2 The Contractor shall base its claim for interim stage payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 18.3.1, supported with necessary particulars and documents in accordance with this Agreement.
- 18.3.3 Any reduction in the Contract Price arising out of Change of Scope or the works withdrawn under Clause 13.3 shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal.

#### 18.4 Stage Payment Statement for Works

The Contractor shall submit a running account bill claim in the standard format (the “Stage Payment Statement”), in 3 copies, by the 7<sup>th</sup> (seventh) day of the month to the Engineer-in-Charge in the form set forth in **Schedule-O**, showing the amount calculated in accordance with Clause 18.3 to which the Contractor considers himself entitled for completed stage(s) of the Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of sub component of work.

#### 18.5 Stage Payment for Works

- 18.5.1 Within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 18.4, the Engineer-in-Charge shall enter the detailed item of work as per BOQ in respect to 100% completed subcomponent and furnish certificates in the Measurement book regarding the work has been executed as per specification and to the full extent and to satisfaction of Engineer-in-Charge. The running account bill shall accompany statement signed by both parties and also signed by contractor in the Authority's Measurement book as acquaintance broadly determine the net payable amount due to the Contractor **and recommend the release of 90 (ninety) percent of the amount so determined as**

**part payment** against the Stage Payment Statement, pending issue of the Interim Payment Certificate by the Engineer-in-Charge. Within 10 (ten) days of the receipt of recommendation of the Engineer-in-Charge, the Treasury shall make electronic payment directly to the Contractor's bank account. **The bank account of the Contractor where he intends to receive all financial transactions/ payments should be officially declared and having mandatorily 'Internet Core Banking facility' without default at the commencement of Project. Failure to officially intimate the Engineer-in-Charge & the Authority regarding the official beneficiary Bank account by the Contractor would be the sole responsibility of him regarding not getting payments etc. or wrong credit.**

- 18.5.2 Within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 18.4, the Engineer-in-Charge shall determine and shall deliver to the Contractor an IPC certifying the amount due and payable to the Contractor, after adjusting the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the IPC shall specify all the amounts that have been deducted from the Stage Payment Statement and the reasons there for.
- 18.5.3 In cases where there is a difference of opinion as to the value of any stage, the Engineer-in-Charge's view shall prevail and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor's right to raise a Dispute.
- 18.5.4 The Engineer-in-charge may, for reasons to be recorded, withhold from stage payment:
- (a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and the Engineer-in-Charge had notified the Contractor; and
  - (b) the estimated cost of rectification of work done being not in accordance with the Agreement.
- 18.5.5 Payment by the Engineer-in-Charge shall not be deemed to indicate the Authority's acceptance, approval, consent or satisfaction with the work done.

#### **18.6 Monthly Maintenance Statement of the Project**

- 18.6.1 The Contractor shall submit to the Engineer-in-Charge a monthly maintenance statement ("Monthly Maintenance Statement") in 3 (three) copies by the 7<sup>th</sup> (seventh) day of each month in the format set forth in '**Schedule-O**' for the Maintenance of the Project during the previous month.
- 18.6.2 The monthly lump sum amount payable for Maintenance shall be as specified in Clause 14.1 and the BOQ. I.T & PT shall be deducted as per Rules.

#### **18.7 Payment for Maintenance of the Project during defect liability period.**

- 18.7.1 Within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 18.6, the Engineer-in-Charge shall verify the Contractor's monthly maintenance statement and certify the amount to be paid to the Contractor taking into account:
- (a) Compliance with the Maintenance Requirements; and
  - (b) reduction for non-compliance with the Maintenance Requirement in accordance with Clause 14.6 and Schedule-M.

The Engineer-in-Charge shall deliver to the Authority an IPC approving or amending the monthly maintenance statement to reflect the amount due to the Contractor in accordance with this Agreement.

- 18.7.2 Maintenance shall be measured in units given in BOQ each; provided, however, that payment thereof shall be made in fixed monthly amounts in accordance with this Agreement. If the Maintenance Requirements set forth in '**Schedule-E**' are not met, reduction in payments shall be made in accordance with the provisions of Schedule-M. The reductions for non-compliance with the Maintenance Requirements shall be applied on the basis of monthly inspections by the Engineer-in-Charge.
- 18.7.3 The deduction made on account of non-compliance with the Maintenance Requirements shall not be subsequently considered for payment after the compliance is achieved by repair or rectification.
- 18.7.4 The Authority shall pay to the Contractor every quarter any amount due under any IPC under this Clause 18.7. The payment shall be made no later than 30 (thirty) days from the date of submission of the last IPC for the relevant quarter.

#### **18.8 Payment of Damages**

- 18.8.1 The Contractor may claim Damages due and payable to it in accordance with the provisions of this Agreement.

18.8.2 The Engineer-in-Charge shall issue the IPC within 15 (fifteen) days of the receipt of the claim under Clause 18.8.1, after making adjustments in accordance with the provisions of this Agreement. The Authority shall pay to the Contractor the amount due under any IPC within a period of 30 (thirty) days from the date of the submission of the claim under this Clause 18.8. In the event of the failure of the Authority to make payment to the Contractor within the specified time, the Authority shall be liable to pay to the Contractor interest thereon and the provisions of Clause 18.9 shall apply mutatis mutandis thereto.

#### **18.9 Time of payment**

18.9.1 The Engineer-in-Charge shall pay to the Contractor any amount due under any payment certificate issued by the Engineer-in-charge in accordance with the provisions of this Article 18, or in accordance with any other clause of this Agreement as follows:

- (a) Payment shall be made no later than 30 (thirty) days from the date of submission of the Stage Payment Statement by the Contractor to the Engineer-in-charge for certification in accordance with the provisions of Clause 18.4 for an IPC; provided that, in the event the IPC is not issued by the Engineer-in-charge within the aforesaid period of 30 (thirty) days, the Authority shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be added to, or deducted from, the next payment certificate issued to the Contractor; and
- (b) payment shall be made no later than 30 (thirty) days from the date of submission of the Final Payment Certificate for Works along with the discharge submitted to the Engineer-in-Charge in accordance with the provisions of Clause 18.15 for certification.

#### **18.10 Final Payment Statement**

18.10.1 Within 60 (sixty) days after receiving the Completion Certificate under Clause 12.4, the Contractor shall submit to the Engineer-in-Charge for consideration in triplicate copies of a Final Payment Statement (the "Final Payment Statement") for Works, with supporting documents showing in detail, in the form prescribed by the Engineer-in-Charge:

- (a) the summary of Contractor's Stage Payment claims for Works as submitted in accordance with Clause 18.4;
- (b) the amounts received from the Authority against each claim; and
- (c) any further sums which the Contractor considers due to it from the Authority.

If the Engineer-in-Charge disagrees with or cannot verify any part of the Final Payment Statement, the Contractor shall submit such further information as the Engineer-in-charge may reasonably require. The Engineer-in-Charge shall deliver to the Authority:

- (i) an IPC for those parts of the Final Payment Statement which are not in dispute, along with a list of disputed items which shall then be settled in accordance with the provisions of Article 25; or
- (ii) Final Payment Certificate in accordance with Clause 18.15 if there are no disputed items.

18.10.2 If the Engineer-in-Charge does not prescribe the form referred to in Clause 18.10.1 within 15 (fifteen) of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

#### **18.11 Discharge**

Upon submission of the Final Payment Statement for Works, the Contractor shall give to the Authority, with a copy to the Engineer-in-Charge, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 18.15.

#### **18.12 Final Payment Certificate**

18.12.1 Within 30 (thirty) days after receipt of the Final Payment Statement for Works under Clause 18.13, and the written discharge under Clause 18.14, and there being no disputed items of claim, the Engineer-in-Charge shall deliver to the Authority, with a copy to the Contractor, a final payment certificate (the "Final Payment Certificate") stating the amount which, in the opinion of the Engineer-

in-Charge, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Engineer-in-Charge shall ascertain from the Authority all amounts previously paid by the Authority and for all sums to which the Authority is entitled, the balance, if any, due from the Authority to the Contractor or from the Contractor to the Authority, as the case may be.

18.12.2 The Authority shall, in accordance with the provisions of Clause 18.9, pay to the Contractor the amount which is stated as being finally due in the Final Payment Certificate.

**18.13 Final payment statement for Maintenance during defect liability**

18.13.1 Within 30 (thirty) days after completion of the first year of defect liability Maintenance Period, the Contractor shall submit to the Engineer-in-Charge three copies of the payment statement for Maintenance of the Project, with supporting documents showing the details set forth below in the form prescribed by the Engineer-in-Charge :

- (a) the total amount claimed in accordance with the monthly statement for Maintenance of Project;
- (b) the amount paid in accordance with the Interim Payment Certificates; and
- (c) any sums which the Contractor considers to be due to it, with supporting documents.

18.13.2 The Engineer-in-Charge shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance under Clause 18.6.1 and Schedule-O, segregating the items of amount payable from the items of amount disallowed. The Engineer-in-Charge shall make payment on the basis of the bill payment verified by the Assistant Engineer within a period of 30 (thirty) days of the receipt of the Interim Payment Statement from the Contractor.

18.13.3 If the Engineer-in-Charge does not prescribe the form within 15 (fifteen) days of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

**18.14 Change in Law**

18.14.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in cost, notify the Authority with a copy to the Engineer-in-Charge of such additional cost due to Change in Law.

18.14.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in cost, notify the other Party with a copy to the Engineer-in-Charge of such reduction in cost due to Change in Law.

18.14.3 The Engineer-in-charge shall, within 15 (fifteen) days from the date of receipt of the notice from the Contractor or the Authority, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

**18.15 Correction of Interim Payment Certificates**

The Engineer-in-Charge may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Engineer-in-Charge.

**18.16 Authority's claims**

If the Authority considers itself to be entitled to any payment from the

Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 20 (twenty) days before making the recovery from any amount due to the Contractor, and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

## **ARTICLE 19**

### **INSURANCE**

#### **19.1 Insurance for Works and Maintenance**

- 19.1.1 The Contractor shall effect and maintain at its own cost the insurances specified in Schedule-P and as per the requirements under the Applicable Laws.
- 19.1.2 Subject to the provisions of Clause 19.6, the Authority and the Contractor shall, in accordance with its obligations as provided for in this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 19 or cannot be recovered from the insurers.
- 19.1.3 Subject to the exceptions specified in Clause 19.1.4 below, the Contractor shall, save and except as provided for in this Agreement, fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:
- (a) the death of or injury to any person; or
  - (b) the loss of or damage to any property (other than the Works);
- that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.
- 19.1.4 Notwithstanding anything stated above and in Clause 19.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to
- (a) the use or occupation of land or any part thereof by the Authority;
  - (b) the right of the Authority to execute the Works, or any part thereof, on, over, under, in or through any land;
  - (c) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and
  - (d) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided that, in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent as may be proportionately determined to be the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

- 19.1.5 Without prejudice to the obligations of the Parties as specified under Clauses 19.1.3 and 19.1.4, the Contractor shall maintain or affect such third party insurances as may be required under the Applicable Laws.
- 19.1.6 The Contractor shall provide to the Engineer-in-Charge, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design Director to cover the risk of professional negligence in the design of Works. The professional liability coverage shall be for a sum of not less than 2% (Two per cent) of the Contract Price and shall be maintained until the end of the Defects Liability Period.

#### **19.2 Notice to the Authority**

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 19. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

#### **19.3 Evidence of Insurance Cover**

- 19.3.1 All insurances obtained by the Contractor in accordance with this Article 19 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10 (ten) days from the Appointed Date, the Contractor shall furnish to the Authority notarized true copies of the certificate(s) of insurance, copies of insurance policies and premia payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation,

modification or non-renewal has been delivered by the Contractor to the Authority. The Contractor shall act in accordance with the directions of the Authority; provided that the Contractor shall produce to the Authority the insurance policies in force and the receipts for payment of the current premia.

- 19.3.2 The Contractor shall ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.
- 19.4 **Remedy for failure to insure**  
If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurance, and pay such premium and recover the cost.
- 19.5 **Waiver of subrogation**  
All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 19 shall include a waiver of any and all rights of subrogation or recovery of the insurers there under against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.
- 19.6 **Contractor's waiver**  
The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.
- 19.7 **Cross liabilities**  
Any such insurance maintained or affected in pursuance of this Article 19 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.
- 19.8 **Accident or injury to workmen**  
Notwithstanding anything stated in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.
- 19.9 **Insurance against accident to workmen**  
The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project from and against any liability incurred in pursuance of this Article 19. Provided that for the purposes of this Clause 19.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its personnel. It is further provided that, in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause 19.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.
- 19.10 **Application of insurance proceeds**  
The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project and the provisions of this Agreement in respect of construction of works shall apply mutatis mutandis to the works undertaken out of the proceeds of insurance.
- 19.11 **Compliance with policy conditions**  
Each Party hereby expressly agrees to fully indemnify the other Party from and against all losses and claims arising from its failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.



## Part V

### Force Majeure and Termination

## ARTICLE 20

### FORCE MAJEURE

#### 20.1 Force Majeure

As used in this Agreement, the expression "Force Majeure" or "Force Majeure Event" shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 20.2, 20.3 and 20.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the "Affected Party") of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

#### 20.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- (a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- (b) strikes or boycotts (other than those involving the Contractor, Sub-contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 20.3;
- (c) any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;
- (d) any judgment or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority;
- (e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- (f) any event or circumstances of a nature analogous to any of the foregoing.

#### 20.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- (a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- (b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- (c) any civil commotion, boycott or political agitation which prevents construction of the Project by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- (d) any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;
- (e) any Indirect Political Event that causes a Non-Political Event; or
- (f) any event or circumstances of a nature analogous to any of the foregoing.

#### 20.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- (a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 18.17;
- (b) compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub-Contractors;
- (c) unlawful or unauthorized or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, license, permit, authorisation, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to

perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, license, authorisation, no objection certificate, exemption, consent, approval or permit;

- (d) any failure or delay of a Sub-contractor but only to the extent caused by another Political Event; or
- (e) any event or circumstances of a nature analogous to any of the foregoing.

## 20.5 Duty to report Force Majeure Event

- 20.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:
- (a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 20 with evidence in support thereof;
  - (b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
  - (c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
  - (d) any other information relevant to the Affected Party's claim.
- 20.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.
- 20.5.3 For so long as the Affected Party continues to claim to be materially affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 20.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

## 20.6 Effect of Force Majeure Event on the Agreement

- 20.6.1 Upon the occurrence of any Force Majeure after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the "Force Majeure costs") shall be allocated and paid as follows:
- (a) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
  - (b) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and
  - (c) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

- 20.6.2 Save and except as expressly provided in this Article 20, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.
- 20.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects.

## 20.7 Termination Notice for Force Majeure Event

- 20.7.1 If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 20, and upon issue of such Termination Notice, this

Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days' time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

## 20.8 Termination Payment for Force Majeure Event

20.8.1 In the event of this Agreement being terminated on account of a Non- Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 22.5.

Provided that in the event Termination occurs during the Maintenance Period, the Engineer-in-charge shall only determine the value of Works associated with Maintenance.

20.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

- (a) any sums due and payable under Clause 22.5; and
- (b) the reasonable cost, as determined by the Engineer-in-Charge, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction or Maintenance, only if such Plant and Materials are in conformity with the Specifications and Standards;

Provided that in the event Termination occurs during the Maintenance Period, the Engineer-in-charge shall only determine the value of Works associated with Maintenance.

20.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 22.6.2 as if it were an Authority Default.

## 20.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

20.9.1 Settlement of Disputes and Arbitration:

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions hereinbefore 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 relating to the contracts, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the executions or failure to execute the same, whether arising during the progress of the work, or after the completion or abandonment thereof shall be dealt with as mentioned hereinafter:

If the contractor considers any work demanded of him/her to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge or any matter in connection with or arising out of the contract or carrying out of the work to be unacceptable, he/she shall promptly within 15 days request the Chairman of the Departmental Dispute Redressal Committee formed by Government, in writing for written instruction or decision. Thereupon, the Dispute Redressal Committee shall give its written instructions or decision within a period of three months from the date of receipt of the contractor's letter.

Above provisions will be applicable irrespective of the value of the works to which the dispute may relate.

## 20.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- (a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- (b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- (c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

## ARTICLE 21

### SUSPENSION OF CONTRACTOR'S RIGHTS

#### 21.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (i) suspend carrying out of the Works or Maintenance or any part thereof, and (ii) carry out such Works or Maintenance itself or authorize any other person to exercise or perform the same on its behalf during such suspension (the "Suspension"). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

#### 21.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest therein and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licenses and sub-licenses respectively, the Authority or any other person authorized by it under Clause 21.1 to use during Suspension, all Intellectual Property belonging to or licensed to the Contractor with respect to the Project and its design, engineering, construction and maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

#### 21.3 Revocation of Suspension

21.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

21.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

#### 21.4 Termination

21.4.1 At any time during the period of Suspension under this Article 21, the Contractor may by notice require the Authority to revoke the Suspension and issue a Termination Notice. The Authority shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 22.

21.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, mutatis mutandis, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

## ARTICLE 22

### TERMINATION

#### 22.1 Termination for Contractor Default

- 22.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the "Contractor Default"), unless the default has occurred solely as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include:
- (a) the Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
  - (b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 7.3, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
  - (c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-J, subject to any Time Extension, and continues to be in default for 45 (forty five) days;
  - (d) the Contractor abandons or manifests intention to abandon the construction or Maintenance of the Project during defect liability period or the defect liability period without the prior written consent of the Authority;
  - (e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 10.1 or stops Works and/or the Maintenance during entire defect liability period for 30 (thirty) days without reflecting the same in the current programme and such stoppage has not been authorized by the Engineer-in-Charge;
  - (f) the Project Completion Date does not occur within the period specified in Schedule-J for the Scheduled Completion Date, or any extension thereof;
  - (g) failure to complete the Punch List items within the periods stipulated there for in Clause 12.2.1;
  - (h) the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Engineer-in-Charge;
  - (i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works or the Maintenance without the prior approval of the Authority;
  - (j) the Contractor creates any Encumbrance in breach of this Agreement; (k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect ;
  - (l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;
  - (m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;
  - (n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Contractor is ordered to be wound up by court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:
    - (i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
    - (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;

- (o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;
- (p) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;
- (q) the Contractor has failed to fulfill any obligation, for which failure Termination has been specified in this Agreement; or
- (r) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

22.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

22.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or arrange for any other entities to do so. The Authority and these entities may then use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

## 22.2 Termination for Authority Default

22.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "Authority Default") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include:

- (a) the Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;
- (b) the Authority has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;
- (c) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or
- (d) the Engineer-in-Charge fails to issue the relevant Interim Payment Certificate within 90 (ninety) days after receiving a statement and supporting documents.

22.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Authority to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

If on the consideration of the Authority's representation or otherwise, the contractor does not issue the Termination Notice on such 15<sup>th</sup> day and prefers to continue with the project, it is deemed that the cause of action of the Termination Notice has been condoned by the Contractor. Hence he forfeits his right to any other remedy on that count.

## 22.3 Termination for Authority's convenience

Notwithstanding anything stated hereinabove, the Authority may terminate this Agreement for convenience. The termination shall take effect 30 (thirty) days from the date of notice hereunder.

## 22.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the terms of this Article 22, the Contractor shall comply with and conform to the following:

- (a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 22;
- (b) deliver all relevant records, reports, Intellectual Property and other licenses pertaining to the Works, Maintenance, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the "as built" Drawings for the Works;

- (c) transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws; and
- (d) vacate the Site within 15 (fifteen) days.

## 22.5 Valuation of Unpaid Works

22.5.1 Within a period of 45 (forty-five) days after Termination under Clause 22.1, 22.2 or 22.3, as the case may be, has taken effect, the Engineer-in-Charge shall proceed in accordance with Clause 18.5 to determine as follows the valuation of unpaid Works (the "**Valuation of Unpaid Works**"):

- (a) value of the completed stage of the Works, less payments already made;
- (b) reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards; and
- (c) value of Maintenance, if any, for completed months, less payments already made, and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at source.

22.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 30 (thirty) days from the date of Termination.

## 22.6 Termination Payment

22.6.1 Upon Termination on account of Contractor's Default under Clause 22.1, the Authority shall:

- (a) en-cash and appropriate the Performance Security and Retention Money, or in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 7.1.1, as agreed pre-determined compensation to the Authority for any losses, delays and cost of completing the Works and Maintenance, if any;
- (b) en-cash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment and interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement.

22.6.2 Upon Termination on account of an Authority Default under Clause 22.2 or for Authority's convenience under Clause 22.3, the Authority shall:

- (a) return the Performance Security and Retention Money forthwith;
- (b) en-cash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equal to:
  - (i) Valuation of Unpaid Works;
  - (ii) the reasonable cost, as determined by the Engineer-in-Charge, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
  - (iii) the reasonable cost of temporary works, as determined by the Engineer-in-Charge; and
  - (iv) 10% (ten per cent) of the cost of the Works and Maintenance that are not commenced or not completed, and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

22.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Authority with the necessary particulars, and in the event of any delay, the Authority shall pay interest at the Base Rate plus 2% (two percent), calculated at quarterly rests, on the amount of Termination Payment remaining unpaid; provided that such delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

22.6.4 The Contractor expressly agrees that Termination Payment under this Article 22 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

## 22.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever



- (a) property and ownership in all Materials, Plant and Works and the Project shall, as between the Contractor and the Authority, vest in the Authority in whole; provided that the foregoing shall be without prejudice to Clause 22.6
- (b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and
- (c) the Authority shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

**22.8 Survival of rights**

Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

## Part VI

### Other Provisions

**ARTICLE 23**  
**ASSIGNMENT AND CHARGES**

**23.1 Restrictions on assignment and charges**

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

**23.2 Hypothecation of Materials or Plant**

Notwithstanding the provisions of Clause 23.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement.

## ARTICLE 24

### LIABILITY AND INDEMNITY

#### 24.1 General indemnity

24.1.1 The Contractor will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the "Authority Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

#### 24.2 Indemnity by the Contractor

24.2.1 Without limiting the generality of Clause 24.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- (a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- (b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
- (c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

24.2.2 Without limiting the generality of the provisions of this Article 24, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a license, at no cost to the Authority, authorizing continued use of the infringing work. If the Contractor is unable to secure such license within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

#### 24.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Article 24 (the "Indemnified Party") it shall notify the other Party (the "Indemnifying Party") within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

#### 24.4 Defense of claims

24.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Article 24, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its

expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

24.4.2 If the Indemnifying Party has exercised its rights under Clause 24.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

24.4.3 If the Indemnifying Party exercises its rights under Clause 24.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:

- (a) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or
- (b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defence of such action; or
- (c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defence of such action and shall have been so notified by the Indemnified Party; or
- (d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
  - (i) that there may be specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
  - (ii) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 24.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defence of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

**24.5 No consequential claims**

Notwithstanding anything to the contrary contained in this Article 24, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

**24.6 Survival on Termination**

The provisions of this Article 24 shall survive Termination.

## ARTICLE 25

### DISPUTE RESOLUTION

#### 25.1 Dispute Resolution

25.1.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 25.2.

25.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

#### 25.2 Conciliation

In the event of any Dispute between the Parties, either Party may call upon Chief Engineer of the Project of the Irrigation & Waterways Directorate, Government of West Bengal, or such other person as the Parties may mutually agree upon (the "Conciliator") to mediate and assist the Parties in arriving at an amicable settlement thereof.

#### 25.3 Dispute Redressal Committee

25.3.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause 25.2, Settlement of Disputes through Departmental Secretary headed Departmental Dispute Redressal Committee (DDRC):

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings change in scope of work, stage payment and instructions hereinbefore 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 relating to the contracts, designs, drawings, specifications, bill value, instructions, orders or these conditions or otherwise concerning the works, or the executions or failure to execute the same, whether arising during the progress of the work, or after the completion or abandonment thereof shall be dealt with as mentioned hereinafter:

If the contractor considers any work demanded of him/her to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-charge or any matter in connection with or arising out of the contract or carrying out of the work to be unacceptable, he/she shall promptly within 15 days request the Chairman of the Departmental Dispute Redressal Committee (DDRC) formed by the Government, in writing for written instruction or decision. Thereupon, the Dispute Redressal Committee shall give its written instructions or decision within a period of one month from the date of receipt of the contractor's letter.

#### 25.4 Adjudication by Regulatory Authority, Tribunal or Commission

25.4.1 In the event of constitution of a statutory regulatory authority, tribunal or commission, as the case may be, with powers to adjudicate upon disputes between the Contractor and the Authority, all Disputes arising after such constitution shall, instead of reference to Arbitration, be adjudicated upon by such regulatory authority, tribunal or commission in accordance with the Applicable Law and all references to Dispute Resolution Procedure shall be construed accordingly. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by an appellate tribunal or court of competent jurisdiction within Kolkata only, as the case may be, or no such appeal has been preferred within the time specified in the Applicable Law.

**ARTICLE 26**  
**MISCELLANEOUS**

**26.1 Governing law and jurisdiction**

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Kolkata shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

**26.2 Waiver of immunity**

Each Party unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

**26.3 Delayed payments**

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 60 (sixty) days of receiving a demand along with the necessary particulars.

**26.4 Waiver**

26.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:-

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

26.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation there under nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

**26.5 Liability for review of Documents and Drawings**

Except to the extent expressly provided in this Agreement:

- (a) no review, comment or approval by the Authority or the Engineer-in-Charge of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction, or maintenance of the Project nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and
- (b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

**26.6 Exclusion of implied warranties etc.**

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

**26.7 Survival**

26.7.1 Termination shall:

- (a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

26.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

**26.8 Entire Agreement**

This Agreement including the entire bid documents, Technical Specifications and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Qualification or Request for Proposals, as the case may be, shall be deemed to form part of this Agreement and treated as such.

**26.9 Severability**

If for any reason whatever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by the Departmental Dispute Redressal Committee or any court of competent jurisdiction within city of Kolkata or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

**26.10 No partnership**

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**26.11 Third parties**

This Agreement is intended solely for the benefit of the Parties and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

**26.12 Successors and assigns**

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

**26.13 Notices**

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside Kolkata may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person in their declared official addresses / contact / e-mail as the Contractor may from time to time designate by notice to the Authority;

[\*\*\*]

- (b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the Superintending Engineer, North Bengal Mechanical & Electrical Circle



with a copy delivered to the Authority's Representative or such other person as the ' Authority' may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an registered office in West Bengal, it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and

- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e- mail, it shall be deemed to have been delivered on the working day following the date of its delivery.

#### 26.14 **Language**

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

#### 26.15 **Counterparts**

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

#### 26.16 **Confidentiality**

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor 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 Authority.

#### 26.17 **Copyright and Intellectual Property rights**

26.17.1 As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non- terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence 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 Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

26.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 26.17.

26.17.3 As between the Parties, the Authority shall retain the copyright and other intellectual property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

#### 26.18 **Limitation of Liability**

26.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement, save and except as provided under Articles 22 and 24.

26.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 22 and 24, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

## ARTICLE 27 DEFINITIONS

### 27.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

**“Accounting Year”** means the financial year commencing from the first day of April of any English calendar year and ending on the thirty-first day of March of the next calendar year;

**“Advance Payment”** shall have the meaning set forth in Clause 18.2; **“Affected Party”** shall have the meaning set forth in Clause 20.1;

**“Affiliate”** means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

**“Agreement”** means this Agreement, its Recitals, and the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

**“Applicable Laws”** means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made there under, and judgments, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

**“Applicable Permits”** means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project during the subsistence of this Agreement;

**“Appointed Date”** means that date which is later of the 15<sup>th</sup> day of the date of this Agreement, the date on which the the Authority has provided the Right of Way on not less than 90% (Ninety per cent) of the total area of activity of Project;

**“Arbitration Act”** means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time;

**“Authority”** shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

**“Authority Default”** shall have the meaning set forth in Clause 22.2; **“Engineer-in-Charge”** shall have the meaning set forth in Clause 17, Para-III, **“Authority’s Representative”** means such person or persons as may be authorized by the Engineer-in-charge being the Assistant Engineer, the Junior Engineer to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfil any obligations of the Authority under this Agreement;

**“Bank”** means a bank incorporated under sole control of RBI in India only, having Internet Core Banking facilities;

**“Base Rate”** means the floor rate of interest announced by the State Bank of India for all its lending operations;

**“Base Date”** means the last date of that calendar month, which date precedes the Bid Due Date by at least 28 (twenty eight) days;

**“Bid”** means the documents in their entirety comprised in the bid submitted by the selected bidder/Consortium in response to the Request for Proposals in accordance with the provisions thereof;

**“Bid Security”** or EMD means the bid security provided by the Contractor to the Authority in accordance with the Request for Proposal, and which is to remain in force until substituted by the Performance Security;

**“Change in Law”** means the occurrence of any of the following after the Base Date:

- (a) the enactment of any new Indian law;
- (b) the repeal, modification or re-enactment of any existing Indian law;

- (c) the commencement of any Indian law which has not entered into effect until the Base Date;
- (d) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Date; or

**“Change of Scope”** shall have the meaning set forth in Article 13;

**“Change of Scope Notice”** shall have the meaning set forth in Clause 13.2.1;

**“Change of Scope Order”** shall have the meaning set forth in Clause 13.2.4;

**“Completion Certificate”** shall have the meaning set forth in Clause 12.4;

{**“Consortium”** means the consortium of entities which have formed a joint venture for implementation of this Project ;}§

**“Construction”** shall have the meaning set forth in Clause 1.2.1 (f);

**“Construction Period”** means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

**“Contract Price”** means the amount specified in Clause 18.1.1;

**“Contractor”** shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

**“Contractor Default”** shall have the meaning set forth in Clause 22.1;

**“Cure Period”** means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

- (a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- (b) not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and
- (c) not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Engineer-in-charge hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Engineer-in-Charge to accord their approval;

**“Department”** would mean the Government in the Irrigation & Waterways, West Bengal having Head Quarter at Jalasampad Bhavan, Salt Lake, Kolkata 700091;

**“Departmental Committee”** would mean any such committee which has been constituted by the Government in the Irrigation & Waterways Department with specific composition and Terms of Reference by a written order;

**“Damages”** shall have the meaning set forth in paragraph (w) of Clause 1.2.1;

**“Defect”** means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards, and in the case of Maintenance, means any defect or deficiency which is specified in Schedule-E;

**“Defects Liability Period”** shall have the meaning set forth in Clause 16.1;

**“Dispute”** shall have the meaning set forth in Clause 25.1.1;

**“Dispute Resolution Procedure”** means the procedure for resolution of Disputes set forth in Article 25;

**“Drawings”** means all of the drawings, calculations and documents pertaining to the Project as set forth in Schedule-I, and shall include ‘as built’ drawings of the Project;

**“Document” or “Documentation”** means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

**“Emergency”** means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets or due to passage of heavy flood discharge through river or other commitments of release of water through Head Regulator Gate Operations;

**“Encumbrances”** means, in relation to the Project, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project, where applicable herein but excluding utilities referred to in Clause 9.1;

**“EPC”** means engineering, procurement and construction;

**“Final Payment Certificate”** shall have the meaning set forth in Clause 18.12.1;

**“Final Payment Statement”** shall have the meaning set forth in Clause 18.13.1;

**“Force Majeure” or “Force Majeure Event”** shall have the meaning ascribed to it in Clause 20.1;

**“GAD” or “General Arrangement Drawings”** shall have the meaning set forth in Clause 4.1.3 (b);

**“GOWB”** or “Government” means the Government of West Bengal;

**“Good Industry Practice”** means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

**“Government Instrumentality”** means any Department, Division or Sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body including panchayat under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

**“Indemnified Party”** means the Party entitled to the benefit of an indemnity pursuant to Article 24;

**“Indemnifying Party”** means the Party obligated to indemnify the other Party pursuant to Article 24;

**“Indirect Political Event”** shall have the meaning set forth in Clause 20.3;

**“Insurance Cover”** means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 19, and includes all insurances required to be taken out by the Contractor under Clauses 19.1 and 19.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

**“Intellectual Property”** means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

**“Interim Payment Certificate”** or “IPC” means the interim payment certificate issued by the Engineer-in-Charge for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;

{**“Lead Member”** shall, in the case of a consortium, mean the member of such consortium who shall have the authority to bind the contractor and each member of the Consortium; and shall be deemed to be the Contractor for the purposes of this Agreement ;}§

The Lead Member shall itself undertake and perform at least 30 (Thirty) percent of the total length of the Project and Lead Member shall hold at least 51% of equity share among the members / partners of joint venture.

**“LOA”** or “Letter of Acceptance” means the letter of acceptance referred to in Recital (E);

“Maintenance” means the maintenance of the Project during defect liability period as set forth in Article 14 for the period specified therein;

“**Maintenance Inspection Report**” shall have the meaning set forth in Clause 15.2.1;

“**Maintenance Manual**” shall have the meaning ascribed to it in Clause 10.7;

“**Maintenance Programme**” shall have the meaning set forth in Clause 14.3;

“**Maintenance Period**” shall have the meaning set forth in Clause 14.1.1;

“**Maintenance Requirements**” shall have the meaning set forth in Clause 14.2;

“**Code**” shall mean the specifications given in the Bureau of Indian Standard Codes.

“**Material Adverse Effect**” means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;

“**Materials**” are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Project;

“**Monthly Maintenance Statement**” shall have the meaning set forth in Clause 18.6.1;

“**Department**” means the Department of Irrigation & Waterways, Govt. of West Bengal having his headquarters at Jalsampad Bhawan, Salt Lake, Sector-II, Kolkata 700091;

“**Non-Political Event**” shall have the meaning set forth in Clause 20.2;

“**Parties**” means the parties to this Agreement collectively and “Party” shall mean any of the parties to this Agreement individually;

“**Performance Security**” shall have the meaning set forth in Clause 7.1;

“**Plant**” means the apparatus and machinery intended to form or forming part of the Works;

“**Political Event**” shall have the meaning set forth in Clause 20.4;

“**Programme**” shall have the meaning set forth in Clause 10.1.3;

“**Project**” means the construction and maintenance of the Project in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

“**Project Assets**” means all physical and other assets relating to (a) tangible assets and administrative offices; and (b) Project Facilities situated on the Site;

“**Project Completion Date**” means the date on which the Provisional Certificate is issued and in the event no Provisional Certificate is issued, the date on which the Completion Certificate is issued;

“**Project Completion Schedule**” means the progressive Project Milestones set forth in Schedule-J for completion of the Project on or before the Scheduled Completion Date;

“**Project Facilities**” means all the amenities and facilities situated on the Site, as described in Schedule-C;

“**Project**” means “Remote monitoring and control of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal”.

“**Quality Assurance Plan**” or “QAP” shall have the meaning set forth in Clause 11.2;

“**Re.**”, “**Rs.**” or “**Rupees**” or “Indian Rupees” means the lawful currency of the Republic of India;

“**Request for Proposals**” or “**RFP**” shall have the meaning set forth in the Agreement;

“**Request for Qualification**” or “**RFQ**” shall have the meaning set forth in the Agreement;

**“Retention Money”** shall have the meaning set forth in Clause 7.5.1;

**“Right of Way”** means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction and maintenance of the Project in accordance with this Agreement;

**“Safety Consultant”** shall have the meaning set forth in Clause 10.1.5;

**“Scheduled Completion Date”** shall be the date set forth in Clause 10.3.1; **“Scope of the Project”** shall have the meaning set forth in Clause 2.1;

**“Section”** means a part of the Project;

**“Site”** shall have the meaning set forth in Clause 8.1;

**“Specifications and Standards”** means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Project submitted by the Contractor to, and expressly approved by, the Authority;

**“Stage Payment Statement”** shall have the meaning set forth in Clause 18.4;

**“Structures”** means the Project appurtenants, as the case may be;

**“Suspension”** shall have the meaning set forth in Article 21;

**“Taxes”** means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

**“Termination”** means the expiry or termination of this Agreement;

**“Termination Notice”** means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

**“Termination Payment”** means the amount payable by either Party to the other upon Termination in accordance with Article 22;

**“Terms of Reference”** or **“ToR”** shall have the meaning set forth in specification and scope of work;

**“Tests”** means the tests set forth in Schedule-K to determine the completion of Works in accordance with the provisions of this Agreement;

**“Time Extension”** shall have the meaning set forth in Clause 10.5.1;

**“User”** means a person who travels or intends to travel on the Project or any part thereof in/on any vehicle;

**“Valuation of Unpaid works”** shall have the meaning set forth in Clause 22.5.1;

**“Works”** means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, maintenance, temporary works and other things necessary to complete the Project in accordance with this Agreement; and

**“WPI”** means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

IN WITNESS WHERE OF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND  
DELIVERED

SIGNED, SEALED AND DELIVERED

For and on behalf of  
Governor of West Bengal by:

For and on behalf of  
THE CONTRACTOR by:

(Signature)

(Signature) The

Superintending Engineer

(Designation)

(Designation)

In the presence of witnesses:        1

2.

{COUNTERSIGNED and accepted by:

Name and particulars of other members of the Consortium}

# **Schedules**



## SCHEDULE - A

(See Clauses 2.1 and 8.1)

(Joint Memorandum to be signed by the Contractor and the Engineer-in-charge)

- 1 The Site of the project for “Remote monitoring and control of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal”.and structures comprising the Site are described in the ‘Appendix’ below:

### APPENDIX

- 1.1 Site of the Project shall include the Teesta Barrage, Head Regulators (H/R) of Teesta Mahananda Link Canal (TMLC) and Teesta Jaldhaka Main Canal (TJMC), Control Room Building, Electrical Sub-Station and other appurtenants.
  - 1.2 The date for handing over the Right of Way (RoW) of the project site to the Contractor in terms of the Agreement being at least 90% of total RoW on the. Appointed date as contained under Article-18 would be within a maximum of seven days from the date of issuance of work order for the project.
  - 1.3 The remaining 10% RoW shall be handed over by the Engineer-in-Charge to the contractor within 80% of Construction Period.
  - 1.4 Inventory list relating to the project site including buildings, structures, equipments, machineries and any other immovable properties on, or attached to, the site prepared jointly by the Engineer-in-Charge and the Contractor, within 15(Fifteen) days from the date of signing of the Agreement, and such inventory list constitutes a part of the this Memorandum referred to in Clause 8.2.1 of this Agreement.
  - 1.5 The Project completion period desired by the Authority for completion of the project has to be followed by the Contractor during framing of implementation planning and programme. The contractor shall signed the Agreement with the Authority under EPC contract as contained in the RFP and agreed by him in –principle due his bid submission within a maximum of 15 days from the date of issuance of Letter of Acceptance (LoA) by the Chief Engineer of the project. Upon signing of Agreement the contractor would be issued instruction for commencement of work by a formal order by the Engineer-in-Charge of the project i.e Executive Engineer, Teesta Barrage Electrical Division, Irrigation & Waterways Directorate formally termed as WORK ORDER for the project. The specifications, bid price, construction period and other details would be annexed with the work order. The Contractor would then submit to the Engineer-in-Charge a detailed activity wise and milestone wise work programme in CPM and PERT commensurate with the construction period and RFP within 10 days from the date of signing of Agreement. The Contractor may, however, improve upon the plans and programme with the prior approval from the Engineer-in-Charge within the available Right of Way and submit to the Authority within 7 days of commencement of the work as per work order.
2. Land: Temporary handing over of Land for implementation of the Project.  
The Site of the Project comprises the land (sum total of land already in possession and land to be possessed) as described below:
1. Authority’s Land free from all encumbrances required for construction of project
  2. Authority’s Land identified for construction of Godown, Labour Hutment within 8 km of work site during construction phase.
- Above mentioned land as per following schedule is temporarily handed over to the Contractor free of any rent only for the construction of the Project work. The Government land for which vacant possession would be handed over to the contractor for setting up of Labour hutment; godown and stack yard including construction activity would be provided within a maximum of 8 km from the Teesta Barrage (Gazoldobe Advance Colony of Teesta Barrage Project). Such premises would be provided to the contractor only during the construction period free of rental charges. However, necessary charges for electricity, water and other amenities would have to be borne by Contractor. The contractor would take possession on as is where is basis and shall hand over possession back to the Engineer-in-Charge within 30 days of completion of the project work in a condition in which the possession was taken.

3. List of Departmental equipments, machineries, Tools & Plant handed over to the contractor:
- i.
    - a. Departmental Gantry crane of Teesta Barrage including hoist motor, DG set, all accessories and ancillary equipments and machineries etc complete.
    - b. Mono Rail crane of Head Regulator gates of Teesta Barrage with Chain Pully and appurtenants
    - c. Departmental power house of Teesta Barrage Project housing the DG set, transformer and 3-phase /AC electric power distribution system for Teesta Barrage and adjoining areas.
  - ii. Other machineries and equipments handed over to contractor by the Engineer-in-Charge fir execution of the project
    - a. To be decided later on
4. The Departmental equipments, machineries, tools & plants, inventories referred above would be made available if demanded by the contractor for execution of the project. Such Departmental items shall be temporarily handed over custody by signing of a written memorandum in triplicate copies by the Engineer-in-Charge and his authorize representative along with the contractor stating the specifications and detailed status. The contractor would then undertake all sorts of repair and maintenance if required for utilizing the services of the Departmental machineries and equipments for implementation of the project during construction period. **The Departmental equipments and machineries would be provided free of charges during the project construction period. However electricity, Fuel, maintenance & repair , operators would be from contractors end.** After completion of the project or before, the contractor would be bound to restore possession of all departmental machineries and equipments to the Engineer-in-Charge in a written memorandum signed by both parties in triplicate copies. Such delivery of above items should clearly indicate that handing over has been made in running operable condition.
5. The GAD and Index map for Teesta Barrage structure, Teesta Barrage main gates, spillway bays, under sluice bays, head regulator gates of Teesta Mahananda Link Canal, Head regulator gates of Teesta Jaldhaka Main Canal are given in drawing nos. which are handed over to the contractor at site within 7 days of issuance of work order. The contractor shall be responsible for safe custody of all drawings and shall restore these old drawings by lamination, binding, restoration work so that the drawings are preserved in an intact condition even after completion of the project. The contractor would carefully take out photocopies and blue prints or scanned copies of these drawings for daily use at site during project execution and thus the original drawing are not tampered. The drawings are to be produced at any time during construction period or otherwise if demanded by the Engineer-in-Charge or his authorize representative at project site.

The contractor upon completion of the work would hand over all the drawings by a written memorandum to the Engineer-in-Charge. Cost of restoration and preservation including redo of any drawing would be borne by the contractor. The original GAD/Schematic diagram of Teesta Barrage, available drawings and records of Teesta Barrage and head regulator gates and other related documents handed over to the contractor as per following list:

Sl. No.	Drawing No.	Description of drawing	Remarks
1	101246A	Central Gearing Assembly	
2	100786F	End Gera Box Drive	
3		Schematic Diagram of Barrage Gate Hoist Arrangement	
4		GAD of BCR ( Typical)	

Note: Other important drawings related to electro-mechanical work are available at the office of SE/NBM&EC, Tinbatti, Siliguri

6. Required Statutory Clearances for implementation of the project obtained by the Authority and communicated to the Contractor on.....
- i) No environmental clearance is required for the project.
  - ii) No other statute is to be obtained by the Authority for implementation of the Project.

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

**SCHEDULE - B**  
(See Clause 2.1)

**DEVELOPMENT OF THE PROJECT**

1. Development of the Project

Development of the Project shall mean the project for “**Remote monitoring and control** of Teesta Barrage and Head Regulator Gates of two off-taking canals at both ends comprising design planning supply installation testing trial commissioning, operation, training and five years extended O & M warranty through a state-of-the art communication based Supervisory Control and Data Acquisition (SCADA) systems including repair, maintenance & overhauling of electro-mechanical barrage components, rust removal treatments and epoxy painting of gates and other structural steel members located at Gazoldoba within P.S Mal & Rajgunj in District Jalpaiguri of West Bengal under Teesta Barrage Project, Irrigation & Waterways Department, Government of West Bengal” included under Core State Plan Budget of Irrigation & Waterways Department, GoWB for implementation during the financial years 2016-17 and 2017-18.

Teesta barrage structure is located at village Gazoldoba across river Teesta at 9.6 mile (15.5 km) downstream of Sevoke Railway bridge, under Block & P.S Mal on the left bank and Block & PS Rajganj in District Jalpaiguri, in the State of West Bengal. (Latitude: 26°45'7.34"N, Longitude: 88°35'13.44"E)

River Teesta originates from a Himalayan glacier in the neighboring State of Sikkim which flows for about 138 km through a narrow gorge and then passes through further 171 km in the plains crosses international border to meet the river Brahmaputra in the district of Rangpur in Bangladesh.

Teesta Barrage Project (Phase-I) initially proposed creation of irrigation potential of 922 Th.Ha benefitting the five districts of Jalpaiguri, Coochbehar, Darjeeeling, Uttar Dinajpur & Dakshin Dinajpur along with power generation of 67.5 MW from canal falls, and also providing drinking water. Around 200 Th Ha irrigation potential has been created.

The Teesta Barrage main weir structure under Teesta Barrage Project Authority of Irrigation & Waterways Department was constructed in the year of 1984. M/S Hindustan Construction Company executed the civil works of the main Barrage portion and M/S Jessop & Co.Ltd. has constructed the barrage and head regulator gates on both right as well as left ends, which have been made operational since 1985.

Teesta Barrage has following components:

5. Spill way bays:-
  - (a) No of bays:- 33
  - (b) Width of each bay:- 18.25 M
  - (c) Crest Level:- 110.35 M (G.T.S)
  - (d) Super flood level- 116.30M (G.T.S)
  - (e) Designed flood discharge:- 20100 Cumec
  - (f) Height of the vertical gate:- 5.50 M
6. Under sluice bays without silt excluder:-
  - (a) No of bays:- 8
  - (b) Width of each bay:- 18.25 M
  - (c) Crest Level:- 109.00 M (G.T.S)
  - (d) Height of the vertical gate:- 6.85 M
7. Under sluice bays with silt excluders :-
  - (a) No of bays:- 4
  - (b) Width of each bay:- 18.25 M
  - (c) Crest level of the top of the tunnel:- 110.825 M (G.T.S)
  - (d) Height of the vertical gate :- 6.85 M
8. Silt excluder tunnels:-
  - (a) No of tunnels per bay:- 6
  - (b) Opening size of each tunnel: 2.50 M (wide) x 2.05 M (height)
  - (c) Floor level of the tunnel:- 109.00 M ( G.T.S)

**Details of right bank main canal (Teesta Mahananda Link Canal Head Regulator)**

Span:

Crest Level: 111.25m

Width of each vent: 6.1m x 4.55m

No. of vents: 13

F.S.L.: 114.00m

B.L.: 110.114m  
Design discharge: approx. 300.00 cumecs  
F.S.D.: 3.886m

**Details of left bank main canal (Teesta Jaldhaka Main Canal Head Regulator)**

Span: 29.31m  
Crest Level: 111.25m  
Width of each vent: 6.1m  
No. of vents: 4  
F.S.L.: 113.90m  
B.L.: 110.20m  
Design discharge: approx. 84.29 cumecs

**Barrage Bridge**

Length: 924m  
Width of roadway: 7.3m  
Footpath on both sides: 1.5m  
Top level of road: 119.60m  
  
Capacity of Gantry crane: 20 MT  
Capacity of Monorail crane: 4 MT  
Lifting speed of gate: 0.3m/min

As per **Teesta Barrage Operation Manual** (To be modified by the Teesta Barrage Project Authority in due course), for passing river discharge above 2125 cumec, the entire spillway and under sluice gates will be opened fully. For discharge below 2125 cumec the following principles will govern operating of Teesta barrage gates:

- 7 At very low discharge, the all the barrage gates will be closed to keep the pond level at RL-114.30 M, to maintain required supply in the off-taking canals, TMLC and TJMC.
- 8 With the increase in discharge, first the silt excluder tunnels will be opened to pass on surplus water beyond the requirement of the canals.
- 9 As the discharge increases the spillway gates and the under sluice gates are opened gradually to pass on the surplus water beyond the canal requirements.
- 10 When the discharge reaches 2125 Cumec all the barrage gates will be fully opened.
- 11 For partial opening all the gates are operated simultaneously.
- 12 The operation of spill way and under sluice gates are to follow the pattern required to guide the downstream out flow to act for river training purpose.

The rating curves of the following for different water levels on the upstream side and for different gate openings are furnished in the operation Manual of Teesta Barrage (To be modified by the Teesta Barrage Project Authority in due course)

- (f) For Head Regulators.
- (g) For Spillways
- (h) For Under Sluice gates without Silt Excluder
- (i) For Under Sluice gates with Silt Excluder
- (j) For Silt excluder tunnels

Teesta barrage gates are operated 24 X 7 for 365 days with critical operations required to manage flood season, feeding of irrigation canals on both banks by diversion of discharge through Teesta Jaldhaka Main Canal and Teesta Mahananda Link Canal for Irrigation, Hydel Power generation and drinking water supply through TMLC. The operation of barrage gates have assumed a critical proportion after construction of a series of NHPC Teesta Hydel project Low- dams on the upper reaches resulting in wide fluctuation in inflow over short intervals. International ramifications are also involved because of its importance in sharing of Teesta river water with neighboring country of Bangladesh in its downstream end at about 70 km from barrage.

45 no. of vertical main Gates of Teesta Barrage, 13 no. of Head Regulator Gates of Teesta Mahananda Link Canal (TMLC) and 4 no. Head Regulator Gates of Teesta Jaldhaka Main Canal (TJMC) are at present operated electrically with rope drum hoist system with added provisions for operating manually by lever handles through chain sprocket mechanism as and when required.

With the advent of modern technology, time is ripe to upgrade the operational methodology of this strategically located Teesta Barrage, which may be utilized to regulate international sharing of Teesta Water through sophisticated and precise automated operation and control system of downstream barrage outflow as well as suitably divert discharge of river through Head

Regulator gates of Teesta Jaldhaka Main Canal (TJMC) & Teesta Mahananda Link Canal (TMLC) for irrigation, hydel power generation and drinking water usage.

Thus considering the hazards of manual operation of about 1 km long barrage, it is proposed that the Teesta Barrage gates be operated through **Remote Control automation** from adjoining **Teesta Barrage control room (BCR)** already existing (To be upgraded into SCADA-PLC-BCR) on right end of Barrage bridge to ensure correct, precise and scientific operation on a real time basis and successfully meet all ends.

Broad objectives of the instant project:

- A. Mechanical repair, maintenance, overhauling and renovation of all 45 no. of Teesta Barrage fabricated structural steel vertical gates, 13 no. of Head Regulator structural MS vertical gates of TMLC (Teesta Mahananda Link Canal) and 4 nos. of Head Regulator structural MS vertical gates of TJMC (Teesta Jaldhaka Main Canal).
- B. Electrical repair & maintenance, overhauling and renovation of all components of 45 no. of Teesta Barrage fabricated structural steel vertical gates, 13 no. of Head Regulator structural MS vertical gates of TMLC (Teesta Mahananda Link Canal) and 4 nos. of Head Regulator structural MS vertical gates of TJMC (Teesta Jaldhaka Main Canal) including power supply & distribution system (AC-DC & Solar Power).
- C. Achieve efficient precise and automated operation and control of all the 62 nos. of Gates for Teesta Barrage, TMLC & TJMC Head Regulators, whether individually or in groups, using state of the art automation system by human machine interface and display, transmit the real time gate positions, water levels, velocity and discharges and other relevant informations at the Barrage Control Room (BCR), situated adjoining Teesta Barrage or if required from other stations.. However, it is to be ensured that in case of failure of the new system, the existing old system will remain operative.
- D. Collection & creation of data base for water levels & silt content % at four different locations both on the upstream and downstream of barrage and at least one location each on the downstream of head regulator of Teesta Mahananda Main Canal (TMLC) and Teesta Jaldhaka Main Canal(TJMC).
- E. Instantaneous computation of discharge and velocity through gate openings (Barrage & Head Regulator gates), with the help of apparatus suitable for such jobs.
- F. Instantaneous computation of discharge and velocity through gate openings (Barrage & Head Regulator gates), with the help of apparatus suitable for such jobs.
- F. Display of gate opening positions of all 62 no. of gates, upstream and downstream water levels and silt content level of river water at locations according to (D) and total discharge through Barrage and TMLC on computer screen as well as on 110" LED screen monitors display units at the Barrage Control Room (BCR). Status of gate opening is to be displayed on computer as well as 110" LED screen monitors display unit simultaneously with suitable colour indicators at Barrage Control Room (BCR) and two other SCADA-PLC Control Rooms. Three (3) nos. station switches are also to be displayed for movements of gates, such as Raise, Lower or Stop with distinct night vision colours. There should be provision for computer text printing facility for generation of reports for all four (4) locations.
- G. As gate unit apparatus are to be connected to the BCR through cable network, the design of cable network should involve minimum cable contents; i.e the local control panel may club a group of gates for operation.
- H. Transmission of the same contents of the display unit at BCR are to be displayed on 110" LED screen monitors display units at Teesta Barrage at Gazoldoba which is the dedicated SCADA-PLC Control Room (BCR) and simultaneously mainly for monitoring purpose at Jalpaiguri (North Bengal Centralised Flood Control Room at Club Road premises of Jalpaiguri Irrigation Division at Jalpaiguri Town) and at Siliguri (office of Chief Engineer, Teesta Barrage Project) through INSAT.
- I. Two sets of alarms are to be set up i) Siren ii) SMS
  - i. **Siren** – Blinking light type siren with reflection in BCR and Monitoring Stations Video walls alert. First one will be used for initial opening of gates to be blown 30 minutes before gate opening (It will be manual with push button). Second one will be with a different colour indicator which would function when the high discharge crosses a certain limit as detailed below:
    1. Teesta Barrage downstream outflow ranging from 1800 cumec to 2500 cumec causes crossing of PDL at Dohmohoni and generation of Yellow Signal for all unprotected areas.

2. Teesta Barrage discharge between 2500 cumec to 3500 cumec causes crossing of DL at Dohmohoni and generation of Red Signal for unprotected areas and simultaneous generation of Yellow Signal for protected areas.
  3. Teesta Barrage discharge above 4000 cumec causes crossing of EDL at Dohmohoni and generation of Red Signal for both unprotected and protected areas.
- ii. **SMS** – Short Message Service or Text Messages (sms) are to be generated automatically whenever flood discharge crosses, i.e 1800 cumec, 2500 cumec, 3500 cumec etc. These SMS are to be communicated to specific mobile SIM numbers of the Government in the Irrigation & Waterways Department (2 nos.), CFR at Jalasampad Bhavan, Salt Lake, Kolkata, Disaster Management Authority (DMA) and the Flood Warning Authority at Jalpaiguri (FWA), Chief Engineer (North East), Chief Engineer, Teesta Barrage Project, Superintending Engineer, North East Circle-I, Superintending Engineer, North Bengal Mechanical & Electrical Circle, Superintending Engineer, Teesta Barrage Circle, Executive Engineer, Jalpaiguri Irrigation Division, Executive Engineer, Teesta Barrage Division, Executive Engineer, Teesta Barrage Electrical Division, and Chief Engineer, TBO,CWC, since at the Gazoldoba, in general mobile network signals are poor, the SMS generation point may be suitably relocated at a different location, say Oodlabari where mobile network signals are relatively stronger. In that case firstly SMS alert are to be sent to that secondary location via INSAT and then from that secondary location, the SMS alert will be put into the general mobile network. If any suitable and cost efficient alternative is available, that may be adopted for generating SMS alert.
- J. Installation PTZ Night vision Camera feed at four suitable locations of Teesta Barrage with connectivity with BCR and other two other stations at Siliguri and Jalpaiguri towns to monitor positions of all barrage and both side head regulator gates, pond levels connected to internet through INSAT/VSAT and GSM/GPRS or Wimax or Broadband to have uninterrupted accessibility from IP address at BCR with that at Jalpaiguri and Siliguri monitoring stations..

**Also, provision for suitable upgradation of the SCADA-PLC system and modification required due to change in guidelines of gate operation in future, along with for further expansions such as camera feed, adding more SCADA software features and more sensors is to be kept open in the system. Storage of data in encrypted data base and secured network from all viruses and malwares in a secured server of 50 years data retention is desired.** All equipments shall conform to International standards and specifications and the electro-mechanical component and epoxy painting shall conform to BIS specifications. The contractor shall provide a O&M manual in four sets after completion of the work. The SCADA-PLC systems should be installed in such a manner so as not to create any hindrance to the mechanical & Electrical maintenance works of barrage and head regulator gates.

The entire project with all subcomponents etc is scheduled to be completed within **560 calendar days ( 80 Weeks) inclusive of monsoon** on other stoppages from the date of actual commencement. A CPM Network programme along with targeted project completion schedule is appended in the RFP. However the bidders are invited to attend the two pre bid meetings with the Authority with their revised Networking Programme of Project completion for consideration by the Authority and the Departmental QBEC.

**The final work programme matching with Period of Construction, Physical Milestones and BOQ of the Project shall determine the interim payment schedule to be submitted by the Contractor as per EPC contract for acceptance within 7 days from issuance of LOA.**

Cost of the project will be charged under Core State Plan budget of the Department. Basic cost would be phased during 2016-17 and 2017-18, and also the maintenance component in subsequent years.

2. Specifications and Standards  
The Project shall be designed and constructed in conformity with the Specifications and Standards specified in the Standards & Specification **'folder'** of e-RFQ and contained in the RFP.
3. Description of the Project shall be given by the Authority in detail together with explanatory drawings (where necessary) to explain the Authority's requirements precisely in order to avoid subsequent changes in the Scope of the Project. The particulars that must be specified in this Schedule-B are listed below as per the requirements of the Manual of Specifications and Standards and construction procedure

If any standards, specifications or details are not given in the Request for Proposal, the e-Notice or RFQ, Agreement or its annexures and Appendices, the minimum construction requirements shall be specified in the Schedule of work contained in the BOQ. In addition to these particulars, all other essential project specific details, as required, should be provided in the technical specifications and appendices annexed with the RFP in order to define the Scope of the Project clearly and precisely.

Construction of sub-components of the project (As per Clause 10.3 of Agreement)

The construction work to be completed in terms of the Physical Milestones fixed for the project as per project completion schedule contained in **Schedule 'J'**.

If the contractor is unable to carryout the work in terms of the approved programme and fails to achieve Project Milestones as stated under **Schedule-I and Schedule-J**, the contractor would be required to pay compensation to the Authority & 0.05% of the bid price per day of delay in terms of Clause 10.3.2 of the Agreement.

After completion of project, the bidder shall give two trial run of the system in presence of Engineer-in-Charge, Superintending Engineer and Chief Engineer of the project. The final trial run should be free from any snags and defects. The Engineer-in-Charge would then prepare a comprehensive inspection report based on works done, all sub-components of works executed and certify that the individual sub-components have been implemented as per desired specifications and as per BOQ and EPC Contract.

The contractor on the date of completion would be handed over the Automation Control O&M and security for 12 months period by a written Memorandum in the form of Agreement for defects liability cum guarantee period. Taking back of departmental machineries, equipments, drawings and other inventories would be completed in 30 days from date of completion of project.

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

**SCHEDULE – C**

**(See Clause 2.1)**

**PROJECT FACILITIES**

**1 Project Facilities**

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement.

**2 Description of Project Facilities**

The Project Facilities comprise Government land to be provided to the contractor as per availability at site of project relating to implementation as is described below:

- i. Vacant land for Labour Hutment
- ii. Vacant land for Stack yard and Godown.

Note: However the contractor within 30 calendar days of completion of the project shall restore the land to its original condition at his own expenses and restore it to the Authority.

Teesta Barrage Campus and Colony at Gazoldoba (Advance Colony) or a portion of the Campus & Colony may be utilized for Labour Hutment and Godown.

**3 Other Project Facilities:**

1. 3 Phase AC Electrical Power supply available at Power House of Teesta Barrage at site
2. Existing water supply arrangement at Gazoldoba Advance Colony may be utilized for Hutments.
3. Arrangement for water at project site to be arranged by the contractor

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal



## SCHEDULE – D

(See Clause 2.1)

### SPECIFICATIONS AND STANDARDS

#### 1 General Instructions:

The Contractor shall comply with the Technical Specifications and Standards set forth in the 'BOQ' **folder** and the Technical Standards & Specification as contained in the '**folder**' in the e-RFQ for implementation of the Project.

Regarding standard & specification of all mechanical, electrical the following should be adopted.

- i. The contractor should follow relevant latest Bureau of Indian Standard (BIS) Codes of Practice, Indian Standard (IS) Specifications for all works
- ii. and wherever above is not available, the DIN (German Standards Deutsches Institute), or American Standards codes of Practices or ASNI-American National Standard Institute) are to be adopted.

As for Instrumentation, Electronics & software as well as Hardwares components:

- iii. The standards and specifications certified and accepted by GOI organizations like Indian Space Research Organisation (ISRO), Defence Research & Development Organisation (DRDO), Bharat Electronics, Gol, Gol Atomic Power Stations (APS) are the desired Standards & Specifications desired from the Bidders.

#### 2. Automation Design, Equipments, Procurement Specifications and Standards

- i. The automation equipments should comply with the ISO and approved by Department of Electronics & Information Technology, Gol (DectY) and Indian Electronics Standards (IES) and should have specification mentioning type, range, rating, grade, quantity, communication compatibility, reliability and durability standards complying requirements of DRDO, ISRO, International Protection Marking standards of at least IP65 and above. The sensors, telemetry and Flood Warning System would be continuously exposed to extreme weathers, submerged in water, moisture, turbidity and as such protection markings of IP-67 is desirable.
- ii. Audit Certificate and Licence of authorized Certifying Authorities (CA) after observance of latest guidelines of IT Act 2000 and its amendments is mandatory
- iii. Firm should also have ISO 9001/2000, ISO 27001:2005 for Information Security Management system & ISO 14001:2004 or higher certification for Environmental Management system
- i. Technical Specification of the electronics & electrical & software modules and equipments have been given under Technical Specification chapter of the Agreement relating to in the following: :
  - i. Gate position sensors,
  - ii. Water level sensors,
  - iii. Discharge measurement sensor.
  - iv. Automatic Digital Rain gauge wather Station,
  - v. Silt sensors,
  - vi. PTZ cameras
  - vii. LED display/Video Walls.
  - viii. Burgler warning with RTU.
  - ix. RTUs for motor control and parameter monitor.
  - x. Motor control panel with motor protection devices.
  - xi. Data logger
  - xii. PCs (laptops, touch screen monitors, etc.)
  - xiii. Storage systems (Local non volatile memory, web clouds, proprietary data storage agencies link google, Red Hat, etc.)
  - xiv. Communication modules (GSM/GPRS, Ethernet, INSAT)
  - xv. Communication accessories (Antennas, IOTs, rooter, SIM, etc.)

- xvi. Power backups (EB, Batteries, ups, DGs, solar panel, etc.)
- xvii. AMF control panel with Automatic Transfer System.
- xviii. Connection between the sensors data logger and master controller by wiring, wifi, etc.

All the above materials should have specification of highest standards wherever such details are not provided mentioning type, range, rating, grade, quantity, communication comp ability, reliability and durability standards complying IEC60068, IEC60571 etc.

- v. The whole system model should be described with schematic diagram and submitted by the contractor before procurement & implementation for prior approval.
- vi. Communication Model should be described with schematic diagram and flow chart with interface description and submitted by the contractor prior to procurement.

**Sensor:**

The sensors should work with 12 v DC and give 4- 20mAmp output.

**Data logger:**

The data logger should work as SLAVE with RTU mode bus communication protocol with slave ID setting specialties. It should have the RS485 port to support modules like, Ether net, GSM/GPRS with inbuilt software. It should have the sensor type defining and calibration specialties through USB port and RTU mode bus through master control.

The data logger should pole (periodically as programmed) the signal from the sensor (in 4 to 20mAmp) and convert it in to FLOT (SCADA data format) format. Each sensor should have defined ID. On equerry from the master controller for data on defined ID it should transmit the data in RTU mode bus format.

**Master controller:**

Master controller is Industrial grade PC with USB, RS232/RS485 and Ethernet ports with computer OS Windows 10, or compatible category.

Master is connected to data loggers, RTU controller through RS485 or wireless means in RTU Mode bus protocol. LED display can be connected to master with separate usb port. External communication modules (for ether net, GSM/GPRS, INSAT/VSAT etc.) connected to another USB port.

Master should run the soft ware developed in high level OBC (C++, java, VB, +net etc.) or specified SCADA soft ware.

Soft ware should provide GUIs from Main menu with

1. Calibration and setting of Sensor
2. Programming of Data logger.
3. Real time data monitor on GUI and LED display.
4. File creation and Storage controller.
5. External Data transmission controller.
6. RTU controller under authentication.
7. Bulgur and warning system controller.
8. Power status monitor and logging.
9. Motor status monitor and logging.

(Refer to Technical Standards & Specification of the RFP/RFQ for further details)

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

## SCHEDULE –E

(See Clauses 2.1 and 14.2)

### MAINTENANCE REQUIREMENTS DURING EXTENDED WARRANTY

- 1 Maintenance Requirements during extended warranty
  - 1.1 The Contractor shall, at all times maintain the Project accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits.
  - 1.2 The Contractor shall repair or rectify any Defect or deficiency set forth in Paragraph 2 of this Schedule-E within the time limit specified therein and any failure in this behalf shall constitute non-fulfillment of the Maintenance obligations by the Contractor. Upon occurrence of any breach hereunder, the Authority shall be entitled to effect reduction in monthly lump sum payment as set forth in Clause 14.6 of this Agreement, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.
  - 1.3 All Materials, works and construction operations shall conform to the Specifications as per BIS Codes and other standard Codes and Good Industry practice. Where the specifications for a work are not given, Good Industry Practice shall be adopted.
  - 2 Repair/rectification of Defects and deficiencies  
The obligations of the Contractor in respect of Maintenance Requirement during extended warranty shall include repair and rectification of the Defects and deficiencies specified Schedule-E within the time limit set forth therein.
  - 3 Other Defects and deficiencies  
In respect of any Defect or deficiency not specified in Schedule-E, the Engineer-in-charge may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Contractor within the time limit specified by the Engineer-in-charge.
  - 4 Extension of time limit  
Notwithstanding anything to the contrary specified in this Schedule-E, if the nature and extent of any Defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Engineer-in-charge and conveyed to the Contractor and the Authority with reasons thereof.
  - 5 Emergency repairs/restoration  
Notwithstanding anything to the contrary contained in this Schedule-E, if any Defect, deficiency or deterioration in the Project poses a hazard to safety or risk of damage to property, the Contractor shall promptly take all reasonable measures for eliminating or minimizing such danger.
  - 6 Daily inspection by the Contractor  
The Contractor shall, through its engineer, undertake a daily visual inspection of the Project and maintain a record thereof in a register to be kept in such form and manner as the Engineer-in-charge may specify. Such record shall be kept in safe custody of the Contractor and shall be open to inspection by the Engineer-in-charge at any time during office hours.
  7. Repairs on account of natural calamities  
All damages occurring to the Project on account of a Force Majeure Event or default or neglect of the Authority shall be undertaken by the Authority at its own cost. The Authority may instruct the Contractor to undertake the repairs at the rates agreed between the Parties.
  8. Repair/rectification of Defects and deficiencies  
The Contractor shall repair and rectify the Defects and deficiencies specified in Schedule-E within the time limit set forth under Clause 7 of the 'Technical Specification' chapter of the Agreement.
- Extended Warranty Maintenance**  
The bidder will be responsible for the free on-site maintenance (with free replacement of parts) of the entire system as defined in sections 5-10 of Agreement during the 5 year warranty period.
- 8.1 **Spares**
    - 8.1.1 **Spares to be included in the Bid price and Bid evaluation**
      1. Critical Subsystems like Gate Position Sensing Unit, Gate Control Unit/RTU, Sensing Instruments etc. which are not for installation but for immediate replacement at subsystem level in case of failure.
      2. Critical high usage components (not entire subsystems) which will be used for field level repair. This may include Gate Control Parts, Gate Position Sensors, communication components, connectors etc.

**Note:**

**The bidder shall decide components and subsystems to be stocked as spares in the Barrage Office on the basis of MTTR (Maximum Time To Repair) figure referred in the Technical Specification Chapter**

**8.1.2 Spares to be quoted but not to be included in the Bid price and Bid Evaluation**

1. In addition, the Bidder must submit a complete list of recommended spare parts at Subsystem Level as well as Component Level, which will be ordered separately as and when needed.
2. Price quoted must be valid till completion of extended warranty period after six years post actual commissioning and no escalation cost due to any reason would be considered.

**9. Training:**

The designated Authority's Technical personnel shall be trained by the Contractor to enable them to effectively operate the total system. Suitable training handouts / manual shall be given to each of the Trainee. The training schedule shall be agreed to by both the parties during the Performance of the Contract. The details of the trainings are specified as below.

The Contractor shall impart training to 'The Departmental staff for Operation, safety, security of each of equipment stalled free of cost within the guarantee period and also in the EXTENDED WARRANTY PERIOD.

**9.01 Training Component**

**9.01.1 Training Programme**

The Bidder is required to provide an extensive training programme for the system. The training set forth in the following paragraphs is a minimum requirement and the bidder should propose any additional training that he considers critical for long term success of the system operations.

The Bidder is expected to provide an outline or table indicating the contents of each of the required courses. The table shall describe the specific topics to be covered for each day of the training period.

The Bidder is responsible for the salaries of the training instructors and all training materials. The costs of travel, transportation and per diem for the trainees shall be borne by the Authority.

**9.01.2 Training in General Operation**

Training shall be provided by the bidder in several phases. The training shall include both classroom and field trainings and will be continued during all five years. The bidder is required to have hydro-meteorological equipment specialists as desired in the Technical Standards & Specifications.

**9.01.3 Operation & Maintenance Manual**

The Bidder will provide complete Operational & Maintenance Manual for Operating Teesta Barrage Gates through Auto Mode as well as Manual Mode in a Hard Covered Booklet Form also in Soft copy in 4 sets. Operation Manual would be framed on the basis of Departmental Guidelines for Teesta Barrage Operation, Existing Booklet of Barrage Operation and recommendations of the High Power Technical Committee on Teesta Barrage. The SCADA-PLC system software should contain provisions for future modification of systems of gate operation and up gradation.

**10. Technical Documentation:**

Technical Documentation involving detailed instructions for Operation and Maintenance is to be delivered with every unit of the equipment supplied. The Language of the documentation shall be in English.

**11. Tests**

Cost for conducting all Tests and SPAT, trial runs shall be borne by the Contractor.

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

## **SCHEDULE – F**

(See Clause 3.1.7(a))

### **APPLICABLE PERMITS**

- 1 Applicable Permits
- 1.1 The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:
  - (a) Permission of the WBSEDCL under Power Department of the Government for electric power supply.
  - (b) Permission of Pollution Control Board for installation of Compressors and Diesel Generator Sets;
  - (c) License for use of all equipments and machineries & softwares;
  - (d) Permission of the State Government for drawing water from river/reservoir for use in labour hutments or for construction work;
  - (e) License from inspector of factories or other competent Authority for setting up fabrication yard at site;
  - (f) Clearance of Pollution Control Board for gas welding
  - (g) Permission of State Government for transportation of machineries;
  - (h) Clearance of customs, Excise, VAT, Salestax, import licence, propriety rights, Manufactures Certificates as per requirement; and
  - (i) Any other permits or clearances required under Applicable Laws.

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

**SCHEDULE - H**  
(See Clauses 10.1.4 and 18.3)  
**Contract Price Weightages**

1.1 The contract price of this Agreement is Rs...../- (Rupees.....) only

1.2 Proportions of the contract price for different stages of construction of the project work shall be as specified below:

Item	Weightage in % to the bid price	Stage of intermediate/running account bill payment	Percentage Weightage
<b>Project Milestone-I</b>	To be decided after receiving work programme or CPM from L1 bidder by the QBEC	To be decided based by QBEC on accepted Work Programme as per CPM Networking & BOQ	To be decided later on by the QBEC
<b>Project Milestone-II</b>			
<b>Project Milestone-III</b>			
<b>Project Milestone-IV</b>			
<b>Project Milestone-V</b>			
<b>Project Milestone-VI</b>			
<b>Project Milestone-VII</b>			
<b>Project Milestone-VIII</b>			
<b>Project Milestone-XIII</b>			
<b>Finishing items</b>			
i. Trial run 1			
ii. Trial run 2			
i. Final delivery of work on project completion			

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal

## SCHEDULE – I

(See Clause 10.2.4)

### Drawings & Project Physical Milestones in conformity with the e-RFP time schedule

1 Drawings

In compliance of the obligations set forth in Clause 10.2 of the Agreement, the Contractor shall furnish to the Engineer-in-charge, free of cost, all designs, plans, programme, schematic diagrams, flow charts, procurement plans ,drawings and Project Physical Milestones in order to complete the work within 580 Project Completion period) days as per RFP-EPC Agreement.

2 Additional Drawings

If the Engineer-in-Charge determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Schedule-A, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Engineer-in-charge, as if such drawings formed part of this Schedule-I.

Project planning and programme for implementation and for making stage payment or running account bill payments

**Project Milestone-I**

To be decided after receiving work programme or CPM from L1 bidder

**Project Milestone-II**

To be decided after receiving work programme or CPM from L1 bidder

**Project Milestone-III**

To be decided after receiving work programme or CPM from L1 bidder

**Project Milestone-IV**

To be decided after receiving work programme or CPM from L1 bidder

**Project Milestone-V**

To be decided after receiving work programme or CPM from L1 bidder

**Project Milestone-VI**

To be decided after receiving work programme or CPM from L1 bidder

Note: All items and sub-componenets not covered above within the time schedule

**Project Milestone-VII**

**Trial runs**

- i. Trial run 1
- ii. Trial run 2
- iii. Final delivery of work on project completion

**Physical Milestone of Project is achieved as per the CPM networking programme prepared and submitted by the contractor to achieve completion of the work within seven days from date of commencement/AOC in conformity with Schedule completion Period.**

**SCHEDULE - J**  
**(See Clause 10.3.2)**

**PROJECT COMPLETION SCHEDULE**

**1 Project Completion Schedule**

During Construction period, the Contractor shall comply with their requirements set forth in the approved Work programme for each of the Project Milestones and the Scheduled Completion Date. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

**2 Project Milestone-I**

To be decided after receiving work programme or CPM from L1 bidder

**3 Project Milestone-II**

To be decided after receiving work programme or CPM from L1 bidder

**4 Project Milestone-III**

To be decided after receiving work programme or CPM from L1 bidder

**5 Project Milestone-IV**

To be decided after receiving work programme or CPM from L1 bidder

**6 Project Milestone-V**

To be decided after receiving work programme or CPM from L1 bidder

**7. Project Milestone-VI**

To be decided after receiving work programme or CPM from L1 bidder

**8 Project Milestone-VII**

To be decided after receiving work programme or CPM from L1 bidder

**Note: The work should be completed within stipulated time 560 calendar days or 80 weeks from date of issue of LoA.**

**9 Extension of time**

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly and stage payment deferred as per received Milestones which must be approved at least 30 days before by Quotation-cum-Bid Evaluation Committee (QBEC) before expiry of the originally agreed schedule date for completion of work.

**11. Construction Period**

The project completion time of 560 calendar days includes disruptions in construction activities due to heavy monsoon rainfall or flood situation arising at site or flood discharge passing through the Teesta Barrage and due to commitments to supply water through TLMC head regulator by maneuvering of Gates to feed Hydel Generation Plant at Lichupukri.

11.1 The Construction Period would mean that period from the Appointed Date (Date of issuance of commencement of work order till the date of issuance of Provisional Completion Certificate.

Signature of the contractor/bidder  
with date and seal

Signature of the Engineer-in-Charge  
with date and seal.



## SCHEDULE – K

(See Clause 12.1.2)

### Tests and Trial Run of SCADA-PLC Automatic system on Physical Completion

- 1 Schedule for Tests
  - 1.1 The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Engineer-in-charge and the Authority of its intent to subject the Project to Trial runs and Tests, and no later than 7 (seven) days prior to the actual date of Tests, furnish to the Engineer-in-Charge and the Authority detailed inventory and particulars of all works and equipment forming part of Works.
  - 1.2 The Contractor shall notify the Engineer-in-charge of its readiness to subject the Project to Tests at any time after 7 (seven) days from the date of such notice, and upon receipt of such notice, the Engineer-in-charge shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Engineer-in-charge shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-K.
- 2 Tests & SPAT
  - 2.1 The Engineer-in-charge shall conduct to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.
  - 2.2 The designed engineers and operators of the contractor shall operate the Barrage & Head Regulator Gates one and all through Automation System and then also display the procedure to the Engineer-in-Charge the performance of the system.
  - 2.3 If trial run of all the gates are completed in a positive inspection schedule, if shall continue for all remaining gates on next date.
  - 2.4 Other tests: The Engineer-in-charge may require the Contractor to carry out or cause to be carried additional trial runs tests, in accordance BIS Code and with Good Industry Practice, for determining the compliance of the Project with Specifications and Standards as contained in the RFQ and Agreement. Entire cost of any such Test decided by the Engineer-in-Charge even if not included in the Agreement shall have to be borne by the Contractor at no extra costs.
    - a. Safety Audit: The Engineer-in-charge shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project with the safety requirements and Good Industry Practice.
- 3 Agency for conducting Tests

All Tests and trial runs set forth in this Agreement' shall be conducted by the Engineer-in-Charge or such other agency or person as it may specify in consultation and as per direction to with the Chief Engineer/Teesta Barrage Project the entire cost of which shall be borne by the contractor without prejudice as per Agreement.
- 4 Agency for conducting Tests

Repeat or 2<sup>nd</sup> Trial Run would have to be conducted in a similarly manner also to explain procedure to manage emergencies.
- 5 Completion Certificate

Upon successful completion of Trial run, the Engineer-in-charge shall issue the provisional Completion Certificate in accordance with the provisions of Article 12.2

**SCHEDULE – L**

(See Clause 12.2 and 12.4)

**Annexure-I**

**PROVISIONAL CERTIFICATE**

- 1 I, ..... (Name of the Engineer-in-charge), acting as the Engineer-in-charge, under and in accordance with the Agreement dated ..... (the "Agreement"), for Construction ..... West Bengal (the "Teesta Barrage Automation Project") on Engineering, Procurement and Construction (EPC) basis through ..... (Name of Contractor), hereby certify that the Tests in accordance with the Agreement have been undertaken to determine compliance of the Project within the provisions of the Agreement.
  
- 2 Works that are incomplete on account of Time Extension have been specified in the Punch List appended hereto, and the Contractor has agreed and accepted that it shall complete all such works in the time and manner set forth in the Agreement. In addition, certain minor works are incomplete and these are not likely to cause material inconvenience to the smooth operation or affect emergent situation management. The Contractor has agreed and accepted that as a condition of this Provisional Certificate, it shall complete such minor works within 30 (thirty) days hereof. These minor works have also been specified in the aforesaid Punch List.
  
- 3 In view of the foregoing, I am satisfied that the Project stretch can be safely and reliably placed in operation for Users thereof, and in terms of the Agreement, the Project is hereby provisionally declared fit for entry into operation on this the ..... day of..... 20.....

**ACCEPTED, SIGNED, SEALED  
DELIVERED  
For and on behalf of  
CONTRACTOR by:**

**SIGNED, SEALED AND  
DELIVERED  
For and on behalf of  
ENGINEER-IN-CHARGE by:**

**(Signature)**

**(Signature)**

**SCHEDULE – L**

Annexure-II

**COMPLETION CERTIFICATE**

*(Official Pad)*

- 1 I, ..... (Name of the Engineer-in-charge), acting as the Engineer-in-charge, authorized by the Government in the Irrigation & Waterways Department under and in accordance with 'the Agreement' bearing No..... dated ..... (the "Agreement"), The project stretch (the "Name of Project") on Engineering, Procurement and Construction (EPC) basis through ..... (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the 'Project' with the provisions of the Agreement, and I am satisfied that the Project can be safely and reliably placed in operation/ commissioned by the Authority thereof.
  
- 2 It is certified that, in terms of the aforesaid "Engineering Procurement & Construction Agreement", all sub-component works forming part of Project have been completed, and the Project is hereby declared fit for entry into operation on this the ..... day of ..... 20.....

SIGNED, SEALED AND DELIVERED

As the Engineer-in-charge of Government

by:

(Signature)  
(Name with Designation)  
(Office Address with Phone & FAX)  
(Official e-Mail address)

## SCHEDULE – M

(See Clauses 14.6, 15.2 and 18.7)

### PAYMENT REDUCTION FOR NON-COMPLIANCE

(To be entered in the Measurement book of the Engineer-in-Charge on behalf of the Authority)

1. Payment reduction for non-compliance with the Maintenance Requirements
  - 1.1 Monthly lump sum payments for maintenance shall be reduced in the case of non-compliance with the Maintenance Requirements during Extended and original Warranty period set forth in the Agreement.
  - 1.2 Any deduction made on account of non-compliance with the Maintenance Requirements shall be paid after compliance subsequently. The deductions shall continue to be made every month until compliance is done.
  - 1.3 The Engineer-in-charge shall calculate the amount of payment reduction on the basis of weight age in percentage assigned to non-conforming items as given in Paragraph 2.
2. Percentage reductions in lump sum payments due to operation & maintenance deficiencies:
  - 2.1 The following percentages shall govern the payment reduction:

S. No.	Item/Defect/Deficiency	Percentage of bill value
(a)	Electro Mechanical sub-component parts repair beyond permitted time of repair as per Specifications chapter of RFP	5%
(b)	Delay in replacement of mal functioning of automation equipments /sub-components beyond allowed period as per Specifications chapter of RFP	5%
(c)	Instrumentation & various other Equipments/installations not directly under Remote Control System	5%
(d)	Improper operation of Barrage Gate from BCR or local control panel	5%
(e)	Lapse of security of vital installation of automation components	5%
(f)	Operation & Maintenance during extended warranty stage	10%
(g)	The system is Down as per Clause 7.5 of the Specifications	10%

**SCHEDULE – O**  
**(See Clauses 18.4.1, 18.6.1, and 18.8.1)**

**Forms of Payment Statements to be entered in Measurement book of the Authority and certified by the Engineer-in-Charge and also signed by the contractor which would be treated as his/her acquaintance**

1. Stage Payment Statement for Works

The Stage Payment Statement for the Project work shall state:

- (a) the estimated amount for the Works executed in accordance with Clause 18.3.1 subsequent to the last claim;
- (b) amounts reflecting adjustments in price for the aforesaid claim;
- (c) the estimated amount of each Change of Scope Order executed subsequent to the last claim;
- (d) amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2.3 (a);
- (e) total of (a), (b), (c) and (d) above;
- (f) Deductions:
  - (i) Any amount to be deducted in accordance with the provisions of the Agreement except taxes;
  - (ii) Any amount towards deduction of taxes; and
  - (iii) Total of (i) and (ii) above.
- (g) Net claim: (e) – (f) (iii);
- (h) The amounts received by the Contractor upto the last claim:
  - (i) For the Works executed (excluding Change of Scope orders);
  - (ii) For Change of Scope Orders, and
  - (iii) Taxes deducted

2. Monthly Maintenance Payment Statement during defect liability and Extended Warranty Periods

The monthly Statement for Maintenance Payment shall state:

- (a) the monthly payment admissible in accordance with the provisions of the Agreement;
- (b) the deductions for maintenance work not done;
- (c) net payment for maintenance due, (a) minus (b);
- (d) amounts reflecting adjustments in price under Clause 18.12; and
- (a) amount towards deduction of taxes

3. Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

*(Signature of the contractor/bidder with date and seal)*

## **SCHEDULE – P**

(See Clause 19.1)

### **INSURANCE**

#### 1. Insurance during Construction Period

1.1 The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

- (a) insurance of Works, Plant and Materials and an additional sum of [15 (fifteen)] per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and
- (b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor for a sum sufficient to provide for their replacement at the Site.

1.2 The insurance under paragraph 1.1 (a) and (b) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

#### 2. Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

#### 3. Insurance against injury to persons and damage to property

3.1 The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences.

The insurance cover shall be not less than: 10% of the Bid Price

3.2 The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor's performance of this Agreement excluding:

- (a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and
- (b) damage which is an unavoidable result of the Contractor's obligations to execute the Work.

#### 4. Insurance to be in joint names

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.

*(Signature of the contractor/bidder with date and seal)*

## **SCHEDULE – Q**

(See Clause 10.5 of Agreement)

### **EXTENSION OF TIME**

Memo No.

Dated,

To

The Chief Engineer, Teesta Barrage Project  
Irrigation & Waterways Directorate  
Government of West Bengal

#### **Sub: Extension of time for completion (the “Time Extension”)**

(Contractor to submit his application to the Engineer-in-Charge who would then review the application on the basis of EPC Agreement and other terms and condition and recommend the same through the Superintending Engineer to the Chief Engineer of the project for final approval)

**Ref:** 1) EPC Agreement No.  
2) LOA No.

Sir,

In terms of clause 10.5 of the EPC Agreement, for and in respect of extension of time, we are entitled to seek extension of time in the Project Completion Schedule (the “**Time Extension**”) to the extent that completion of Project Milestone No..... is or will be delayed due to the following reasons, namely:

- (a) delay in providing the Right of Way, statutory clearances or approval of authorities, specified in Clause 4.1.4;
- (b) Change of Scope unless an adjustment to the Scheduled Completion Date has been agreed under Article 13;
- (c) occurrence of a Force Majeure Event;
- (d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority's personnel or the Authority's other contractors on the Site; and
- (e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

As per the Agreement, we are entitled for Time Extension (not later than 15 (fifteen) days from the occurrence of an event or circumstance specified above, as we have informed the Engineer-in-Charge in writing, with a copy to the Superintending Engineer and the Chief Engineer, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of the Agreement.

Time Extension being sought shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected hereunder.

(Note: 1. In the event of the failure of the Contractor to issue to the Engineer-in-Charge a notice in accordance with the provisions of Clause 10.5.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this clause 10.5.3, the Authority shall be discharged from all liability in connection with the claim.

2. The Engineer-in-Charge shall, on receipt of the claim in accordance with the provisions of Clause 10.5.2, examine the claim expeditiously within the time frame specified herein. In the event the Engineer-in-Charge requires any clarifications to examine the claim, the Engineer-in-Charge shall seek the same within 7 (seven) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Engineer-in-Charge requesting for clarification, furnish the same to the Engineer-in-Charge within 10 (ten)

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days thereof. The Engineer-in-Charge shall, within a period of 7 (seven) days from the date of receipt of such clarifications obtain the permission of the Chief Engineer and then forward in writing to the Contractor its determination of Time Extension.

Provided, that when determining each extension of time under this Clause 10.5, the Engineer-in-Charge shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

3. If the event or circumstance giving rise to the notice has a continuing effect:
  - (a) a fully detailed claim shall be considered as interim;
  - (b) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Engineer-in-Charge may reasonably require; and
  - (c) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.
4. Upon receipt of the claim hereunder, the Engineer-in-Charge shall examine the same in accordance with the provisions of Clause 10.5.4 within a period of 60 (sixty) days of the receipt thereof.)

Hence kindly grant .....days of Extension of Time , so that the revised programme for completion of the project based on Project Milestones would be as under:

- a. Project Milestone No. .... revised to .....
- b. Project Milestone No. .... revised to .....
- c. Revised Project Completion date.....

the revised bar chart / CPM-PERT networking programme schedule is appended. The consequent financial stage payment would be modified as per agreement which is proposed hereunder:

- a. Modification No. 1
- b. Modification No. 2
- c. Final payment

Enco: As stated

Yours sincerely,

(Name of the bidder)  
Address with Seal  
Phone No.  
E-Mail ID



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IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED  
AND  
DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND  
YEAR  
FIRST ABOVE WRITTEN

SIGNED, SEALED AND  
DELIVERED

SIGNED, SEALED AND  
DELIVERED

For and on behalf of  
Governor of West Bengal by:

For and on behalf of  
THE CONTRACTOR by:

(Signature)

(Signature)

The Superintending Engineer

(Designation)

(Designation)

In the presence of: 1.  
2.

{COUNTERSIGNED and accepted by:

Name and particulars of other members of the Consortium / Joint Venture}