



## GUWAHATI UTILITIES COMPANY LIMITED

(CIN U38110AS2023PLC024235.) (GSTIN : 18AAKCG3120G1D3)

4<sup>th</sup> Floor, Tripti Tower, Ganeshguri, Guwahati-06, Assam

E-mail: [mdguclassam@gmail.com](mailto:mdguclassam@gmail.com)

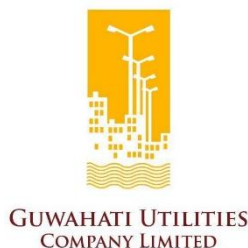
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**NAME OF WORK- SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND  
COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL  
(Package- 4).**

### Vol. I: BIDDING DOCUMENT

(Invitation for Bid, Instruction to Bidders, Form of Bid,  
Qualification Information, Condition of Contracts,  
Technical Specifications, Bill of Quantities)

OFFICE OF THE MANAGING DIRECTOR, GUCL, GANESHGURI, GUWAHATI-5.



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4<sup>th</sup> Floor, Tripti Tower, Ganeshguri, Guwahati-06, Assam

E-mail: [mdguclassam@gmail.com](mailto:mdguclassam@gmail.com)

### LOCAL COMPETITIVE BIDDING

NAME OF THE WORK	<b>SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL (Package- 4).</b>
DOWNLOAD OF TENDER THROUGH WEBSITE	FROM 08 / 07/2025 (14:00 HRS) TO 28/ 07 /2025 (14:00HRS) in <a href="http://www.gmc.assam.gov.in">www.gmc.assam.gov.in</a> , <a href="http://www.gucl.in">www.gucl.in</a>
LAST DATE AND TIME OF MANNUAL AND ONLINE SUBMISSION OF BID	ON 28 / 07/2025 TO 14:00HRS
TECHNICAL BID OPENING	ON 29 / 07/2025 at 14:00 HRS
PLACE OF BID OPENING	Office of the Managing Director, GUCL, Tripti Tower, Ganeshguri, Guwahati- 06
OFFICER INVITING BIDS	THE MANAGING DIRECTOR, GUCL, GANESHGURI, GUWAHATI- 06

**INVITATION FOR BIDS (IFB)**



# GUWAHATI UTILITIES COMPANY LIMITED

(CIN U38110AS2023PLC024235.) (GSTIN : 18AAKCG3120G1D3)

4<sup>th</sup> Floor, Tripti Tower, Ganeshguri, Guwahati-06, Assam

E-mail: [mdguclassam@gmail.com](mailto:mdguclassam@gmail.com)

No.: GUCL/Elect/332/25/636

Date: 07/07/2025

## **INVITATION FOR BIDS (IFB)** **LOCAL COMPETITIVE BIDDING**

The Managing Director, Guwahati Utilities Company Limited, Guwahati invites bids from registered Contractors/ suppliers/manufacturers/dealers and eligible bidders for " **SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL (Package- 4)**" in the following packages.

Sl.	Description	Amount	Bid Security		Cost of Bid Document	Period of Completion
			For General	For SC/ST/ OBC/UEE		
1	SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL <b>(Package- 1)</b>	₹ 19,89,780.00	₹ 30,245/-	₹ 15,123/-	₹1000/-	30 Days
2	SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL <b>(Package- 2)</b>	₹ 19,89,999.00	₹ 30,236/-	₹ 15,118/-	₹ 1000/-	30 Days
3	SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL <b>(Package- 3)</b>	₹ 19,89,997.00	₹ 30,236/-	₹ 15,118/-	₹ 1000/-	30 Days
	SUPPLY, INSTALLATION, REPAIRING, COMMISSIONING AND COMPREHENSIVE MAINTENANCE OF STREET LIGHTS AT ADABARI BUS TERMINAL <b>(Package- 4)</b>	₹ 19,90,005.00			₹ 1000/-	30 Days

**N.B-** Details/streets/locations of packages may be referred in details below.

Details of the bid may be seen at e-procurement portal website i.e. [www.gmc.assam.gov.in](http://www.gmc.assam.gov.in), [www.gucl.in](http://www.gucl.in) from 1400 hrs of **08 / 07 /2025** to 1400 hrs of **28 / 07 /2025**

**NOTE:**

1. Venue: Office of the Guwahati Utilities Company Limited, Tripti Tower, Ganeshguri, Guwahati - 06 .
2. Offline mode of submission of both Technical and Financial Bid is mandatory.
3. The Technical Bids will be opened on 29 / 07 / 2025 at 1400 hrs.
4. In the event of date of bid opening being a holiday, the activities will take place on the next working day.
5. Original copy of the following documents must be submitted on or before **14-00 hrs** at the office chamber of the undersigned.
  - a. Original Power of Attorney for signing the BID;
  - b. Cost of bid document and bid security may be deposited through Internet Banking of State Bank of India (SBI) or any other Banks listed at State Bank Multi Option Payment system (SBMOPS)
6. The hard copy of the technical bid is to be submitted **on or before 28 / 07 /2025 up to 1400 hrs** for evaluation purpose.
7. The tender is invited on the strength of Administrative Approval received from Govt.
8. No Hard copies of submitted bid documents will be returned to the Bidders.
9. All the interested bidders are requested to read the bid document carefully before submission of their bid.

**Sd/-**

Managing Director,  
Guwahati Utilities Company Limited  
Ganeshguri, Guwahati- 06  
Date: 07/07/ 2025

Memo No.: GUCL/Elect/332/25/636

Copy to: -

1. P.A to the Hon'ble Mayor, GMC for kind appraisal to the Hon'ble Mayor GMC.
2. The Commissioner, GMC for favour of kind information.
3. The Director, Information & Public Relations, Kamrup (Metro), for publication of the above tender notice in one issue of an English Daily Newspaper and one issue of two Assamese Daily Newspapers.
4. Software Developer, GMC, for uploading in the GMC official website.
5. Software Developer, GUCL, for uploading in the GUCL official website.
6. Office File.
7. Notice board.

**Sd/-**

Managing Director,  
Guwahati Utilities Company Limited  
Ganeshguri, Guwahati- 06

## A. GENERAL

### A. BIDDING DOCUMENTS

#### Additional Notes to Clause 8 of ITB.

Both the technical & Financial Bids of the bidders will be received OFFLINE form only. Irrespective of the mode of submission selected, the following documents will have to be submitted on paper.

- Original power of attorney for signing the bid.
- Any other legal or original documents sought and described elsewhere in this bid document.

#### Additional Notes to Clause 10

All amendments issued will be published on the website – [www.gmc.assam.gov.in](http://www.gmc.assam.gov.in), [www.gucl.in](http://www.gucl.in) It is the prerogative of the Contractor to visit the aforementioned site for corrigendum, addendum and amendment notices. These notices have to be read in conjunction with the tender document and have to be signed and submitted manually along with the bid.

### B. PREPARATION OF BIDS

#### Additional Notes to clause 12

Mode of Bid Preparation and Documents comprising the Bid

Technical Bid should be submitted offline before the end time of submission of bid.

#### Additional Notes to clause 18 of ITB – Format and Signing of Bid

For manual submission of Technical bid refer clause no 18 of ITB. Financial bid needs to be submitted along with technical bid.

### C. SUBMISSION OF BIDS

#### Notes to Clause 19 of ITB -Sealing and Marking of Bids

Refer to notes 19.1 to 19.6 mentioned hereafter.

Notes 19.1 through 19.4 apply to all documents comprising the technical bid and Financial bid needs to be submitted offline only.

19.1 The Bidder shall seal the hard copy of the **technical bid** in one envelope duly marking the envelope as “Technical Bid”.

Technical Bid: to be opened not before 14:00 Hrs. of **29 / 07 /2025**.

The contents of Technical Bids will be as specified in clause 12.2 of ITB and notes to Clause12 of ITB in this appendix.

19.2 The envelope containing Technical Bid shall be

- a. Addressed to the Employer at the address given in Appendix to ITB
- b. Bear the identification as indicated in Appendix to ITB

19.3 In addition to the identification required in Sub-Clauses 19.1 and 19.2 of ITB, the envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21 of ITB, or the Evaluation Committee declares the bid as non-responsive pursuant to

Clause 23 of ITB.

19.4 Bidders are required to mention the Company ID (obtained at the time of the ETS registration), the Package No. (As seen in the press notice) and the Tender No (as seen on the ETS website) on the outer envelope of the bid as well as each enclosed envelope (viz., Technical, EMD and Document Fee).

19.5 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

19.6 deleted

#### **Additional Notes to Clause 20 of ITB –Deadline for Submission of the Bids**

offline bid forms must be filled up and bid hashes signed and submitted before the deadline specified at serial no. 3 in the tender time schedule of IFB

All Documents to be submitted in paper form must be received by the Employer at the address specified in Appendix to ITB not later than the date indicated at serial no. 3 of the tender time schedule of IFB; In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received up to the appointed time on the next working day.

The Employer may extend the deadline for submission of the bids by issuing an amendment before the expiry time in accordance with clause 10 of ITB, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

#### **Additional Notes to Clause 22 of ITB.**

deleted

#### **BID OPENING AND EVALUATION**

##### **Notes to Clause 23 of ITB - Bid Opening**

The Employer will open all the technical Bids received (except those received late), including modifications made pursuant to Clause 22 of ITB and serial-3 of time schedule, in the presence of the Bidders or their representatives who choose to attend at time, date specified in Tender Time Schedule in IFB at the address specified in Appendix to ITB in the manner specified in Clause 20 and 23.3. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.

After opening the envelope containing “Technical Bid” the amount, form and validity of the bid security furnished with each bid will be announced. **If the bid security furnished does not conform to the amount and validity period as specified in the Appendix to ITB, and has not been furnished in the form specified in Clause 16, the “Technical Bid” will be returned and their online financial bid will be destroyed.**

The “Technical Bid” of only those bidders will be entitled for financial evaluation online whose technical bids are found responsive.

**1. Electronic Tender No** :

**2. Package No.** :

**3. Name of Work** :

**4. Estimated Amount (Rs. in L)** :

5. Bid Security (in Rs.) :
6. Cost of Document (in Rs.) :
7. Time of Completion :
8. Name of the officer inviting Bid: Managing Director, GUCL, Ganeshguri, Guwahati-06
9. Address for Paper Submission and Opening: Office of the Managing Director, GUCL,  
Ganeshguri, Guwahati-06



**SECTION 1: INSTRUCTIONS TO BIDDERS(ITB)**

## A. General

### 1. Scope of Bid

- 1.1 The Managing Director, Guwahati Utilities Company Limited, Ganeshguri, Guwahati-06, (referred to as Employer in these documents) invites bids from registered Contractor for the works (as defined in these documents and referred to as "the works") detailed in the table given in IFB. The bidders may submit bids for any or all of the works detailed in the table given in IFB.
- 1.2 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.

### 2. Source of Funds

- 2.1 Deleted
- 2.2 Deleted

### 3. Eligible Bidders

- 3.1 (a) This *Invitation for Bids* is open to Contractor registered with the Guwahati Municipal Corporation/ GUCL, APWD, APDCL or any other Department/undertaking of the Govt. of Assam as electrical Contractor in the relevant field.
- 3.1 (b) If the bid is made by an individual it shall be signed by the individual above his full type written name and current address.
- 3.1 (c) If the bid is made by proprietary firm, it shall be signed by the proprietor above his full typewritten name and the full name of his firm with its current address.
- 3.1 (d) If the bid is made by a firm in partnership, it shall be signed by all the partners of the firm above their full typewritten names and current addresses, or alternatively by a partner holding power of attorney for the firm in which case a certified copy of the power of attorney shall accompany the application. A certified copy of the partnership deed and current address of all the partners of the firm shall also accompany the application.
- 3.1 (e) If the bid is made by a limited company or a corporation. It shall be signed by a duly authorized person holding power of attorney for signing the bid in which case a certified copy of the power of attorney shall accompany the bid.
- 3.2 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.
- 3.3 Joint Venture is allowed, maximum two firms can participate in joint venture (One lead firm + One JV firm). J.V. to fulfill eligibility criteria jointly. The lead firm should be registered as per clause 3.1 (a) as mentioned above.
- 3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by any Government Department/Guwahati Municipal Corporation in accordance with sub-clause **37.1**.

#### 4. Qualification of the Bidder

- 4.1 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include programme of supply, installation backed with equipment planning and deployment schedule duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion. A bar chart for the schedule of execution should be submitted by the bidders. In addition to the above, details of the methodology for operation & maintenance during the Defect Liability Period and extended maintenance period with procedure for availing warranty benefits for supplied components should also be submitted.
- 4.2 Deleted
- 4.3 If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section 2:
- a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
  - b) Proof of registration with GUCL/APWD/APDCL as an electrical Contractor in the relevant field with copy of photo ID proof (photocopy of driving license/PAN Card/bank passbook with photograph etc.)
  - c) Copy of up to date Trade License issued by Guwahati Municipal Corporation, GST registration certificate, PAN Card.
  - d) Total monetary value of construction and electrical works performed during each of the last three years for work-package value up to Rs 50.00 Lakhs and five years for work-package value above 50.00 Lakhs (*To be certified by a Chartered Accountant*);
  - e) Experience in works of a **similar nature\*** and size executed **in any part of the country** for each of the last three/five years, and details of works under way or contractually committed; and clients who may be contacted for further information on those contracts;
  - f) Qualifications and experience of key site management and technical personnel proposed for the Contract;
  - g) Deleted.
  - h) Evidence of access to line(s) of credit and availability of other financial Resources facilities (**80%** of Contract value), certified by the Bankers (**Not more than 6 months old**);
  - i) Undertaking that the bidder will be able to invest a minimum cash of 50% of contract value of work, during implementation of the work.
  - j) Authority to seek references from the Bidder's bankers;
  - k) Information regarding any litigation pending in any court of law or arbitration resulting from contracts executed by the Bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute;
  - l) The proposed methodology and program for execution of the works including, environmental/traffic/risk management plan backed with

equipment, materials and manpower planning and deployment schedule duly supported with broad calculations and quality control procedure proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones. In addition to the above, details of the methodology for operation & maintenance during the Defect liability period and extended maintenance period with procedure for availing warranty benefits for supplied components should also be submitted.

- m) Contractor must have to submit their Annual Return documents (Income Tax) for the last three years for works up to Rs 50.00 Lakhs/five years for works above 50.00 Lakhs.
- n) Attested copy of up to date electrical License.
- o) Attested copy of valid electrical Supervisor License.
- p) List of electrical Tools and Plants (Specially Telescopic ladder) duly tested and certified by the inspector, I-licensing Board, Assam or by State Govt. /Central Govt. Engineer not less than in the Rank of Executive Engineer (Electrical). Experience Certificates/work done certificates of similar nature of work carried in the State/Central/ Govt. Under taking organization in last 3 (three) years from the employer or his authorized officer not below the rank of Executive Engineer (Electrical).

**4.4 A. To qualify for award of the contract, each bidder in its name should have in the last five years i.e. 2019-2020, 2020-2021, 2021-2022, 2022-2023 & 2023-24:**

- a) Achieved a minimum average annual financial turnover (in all classes of engineering construction and installation works only) of 1.5 times the estimated package value.
- b) The bidder must be a profit making one for the last five years.
- c) satisfactorily completed (not less than 75% of contract value), as a prime Contractor, (or as Sub-Contractor duly certified by the employer) at least **one similar work** of value not less than 80% of the estimated package value;

**4.4 B. Each bidder should further demonstrate:**

- a) Availability (either owned or leased) of the key and critical equipment for this work:

Based on the Studies, carried out by the Engineer the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule is shown in the **Appendix – II**.

The bidders should, however, undertake their own studies and furnish with their bid, a detailed work-plan and methodology supported with layout, charts, drawings and calculations (detailed) as stated in Clause 4.3 (I) above to facilitate the Employer to review their proposals. The numbers, types and capacities of each plant/ equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- b) Availability for this work of personnel with adequate experience as required; as per Appendix –III
- c) Liquid assets and or/ credit facilities of not less than amount indicated in Appendix – I. (*Credit lines and/letter of credit/certificate from Banks for meeting the funds requirement etc.*)

- 4.4 C.** To qualify for a package of contracts made up of this and other contracts for which bids are invited in the IFB, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for all the contracts in question.
- 4.5** Sub Contractor's experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria except to the extent stated in 4.4 (A) above.
- 4.6** Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A * N * 2 - B)$$

Where

- A = Maximum value of engineering works (with electrical component) executed in any one year during the last three/five years (updated to 2020-21 price level) taking into account the completed as well as works in progress.
- N = Number of years prescribed for completion of the works for which bids are invited.
- B = Value, at 2021-22 price level, of existing commitments and on-going works to be completed during the period of completion of the works for which bids are invited.

**Note:** i) The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

ii) Updating factors for updating work value of single Electrical Project executed during last five years:

<u>Year before</u>	<u>Multiplying Factor</u>
One	1.1
Two	1.21
Three	1.33
Four	1.46
Five	1.61

- 4.7** Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:
- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
  - Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
  - participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.
  - has not duly filled up the formats given in Qualification Information [1.3.1, 1.3.2, 1.4 A & B]
- 4.8** In case, the qualification information is not duly filled as per the prescribed formats, the bid shall be summarily rejected.

**5. One Bid per Bidder**

- 5.1 Each bidder shall submit only one bid for one contract. A bidder who submits or participates in more than one Bid (other than as a sub Contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

**6. Cost of Bidding**

- 6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid and the Employer will in no case be responsible and liable for those costs.

**7. Site visit**

- 7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

**B. Bidding Documents**

**8. Content of Bidding Documents**

- 8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

1. Invitation for Bids
2. Bidding Documents comprising:

Section	Particulars	Volume No.
1	Invitation for Bids	I
2	Instructions to Bidders	
3	Contractors Bid, Qualification Information and other forms	
4	Conditions of Contract	
5	Contract of Data	
6	Technical Specifications	
7	Bill of Quantities/Estimates	
8	Securities and other forms	II
9	Drawings	III
10	Documents to be furnished by bidder	IV

- 8.2 One copy of each of the volumes I, II & III will be downloaded from Website by the bidder. Documents to be furnished by the bidder in compliance to section 2 will be prepared by him and furnished as Volume- IV in two parts (to be submitted in A4 size paper in a bound volume) (refer clause 12).

- 8.3 The bidder is expected to examine carefully all instructions, conditions of Contract, contract data, forms, terms, and technical specifications, bill of quantities, forms, Appendix and drawings in the Bid Document. Failure to comply with the requirements of Bid Document shall be at the bidder's own risk. Pursuant to clause 26 here of bids, which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

**9. Clarification of Bidding Documents**

- 9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15 days prior to the deadline for submission of bids. Copies of the Employer's

response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

## **9.2 Pre-bid meeting**

- 9.2.1 Pre-Bid Meeting is Scheduled on ..... at ..... HRS at venue at GUCL office Tripti Tower 4<sup>th</sup> floor, Ganeshguri, Guwahati- 06.

## **10. Amendment of Bidding Documents**

- 10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.
- 10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
- 10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

## **C. Preparation of Bids**

### **11. Language of the Bid**

- 11.1 All documents relating to the bid shall be in the English language.

### **12. Documents comprising the Bid**

- 12.1 **The bid to be submitted by the bidder (refer Clause 8.1) shall be in 2 (two) separate parts i.e.**

The bid to be submitted by the bidder online in two separate parts:

#### **Part-I shall be named "Technical Bid" and shall comprise**

- (i) Qualification information and supporting documents as specified in Section 2.
- (ii) Certificates, undertakings, affidavits as specified in Section 2.
- (iii) Any other information pursuant to Clause 4.2 of these instructions.
- (iv) Undertaking that the Bid shall remain valid for the period specified in Clause 15.1
- (v) Authority to seek references from the bidders Bankers (Clause 4.3.k)
- (vi) Bid Security in the form specified in ITB
- (vii) GST Registration Certificate.
- (viii) PAN Card Certificate.

#### **Part-II: Price (Financial) Bid shall comprise**

- (i) Contractor Bid Form as specified in Section 2.

Both parts as above shall be submitted on line. However, documentary evidence in support of the technical bid/bid security etc. shall be submitted manually before online hash submission or expiry of the date & time. In case of discrepancy between the two the one submitted online will govern.

***Bidders are advised to scan their Technical Papers at 100dpi (In Black &***

*White mode) in “.pdf” format for multiple pages with maximum file size of 25MB. If numbers of pages exceeds, the bidders are advised to create multiple files and upload the same in “Upload Additional Document” stage. The BOQ sheet should be in .xls format.*

Following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section	Particulars	Volume No.
1	Invitation for Bids (IFB)	
2	Instruction to Bidders	Vol – I
3	Conditions of contract	Vol – I
4	Contract Data	Vol – I
5	Specifications	Vol – I
6	Bill of Quantities	Vol-I
7	Drawings (if furnished to the bidder in the set of bid document issued)	Vol – III

### 13. Bid Prices

- 13.1 The contract shall be for the whole works as described in Sub-Clause 1.1 based on the priced Bill of Quantities submitted by the Bidder.
- 13.2 The Bidder must quote his bid price in Section- 2 (Contractor Bid Form) both in figure and words, which is to be duly signed by the bidder. A Financial Bid without any mention of bid price in the Form of Bid shall be treated as **Non-responsive** and shall not be considered for evaluation.
- 13.3 All duties, taxes, and other levies payable by the Contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.
- 13.4 The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.
- 13.5 If the bidder quoted rate is more below, then they will compromise it with the quality of works. Discounts offered after filling up the rates of the items shall not be taken into consideration and rates inserted against each item shall prevail.

### 14. Currencies of Bid and Payment

- 14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

### 15. Bid Validity

- 15.1 Bids shall remain valid for a period not less than **Ninety days** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period **shall be rejected by the Employer as non-responsive**.
- 15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A



bidder agreeing to the request will not be required or permitted to modify his bid except as provided in 15.3 hereinafter, but will be required to extend the validity of his bid security for a period of the extension, and noncompliance with Clause 16 in all respects.

- 15.3 In the case of contracts in which the Contract Price is fixed (not subject to price adjustment), in the event that the purchaser requests and the Bidder agrees to an extension of the validity period, the contract price, if the Bidder is selected for award shall be the bid price corrected as follows :

The price shall be increased by the factor 0.12% for each week or part of a week that has elapsed from the expiration of the initial bid validity to the date of issue of letter of acceptance to the successful Bidder.

- 15.4 Bid evaluation will be based on the bid prices without taking into consideration the above correction.

## **16. Bid Security**

- 16.1 The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This bid security shall be in favor of the Managing Director, Guwahati Utilities Company Limited, Ganeshguri, Guwahati – 781006, and may be in one of the following forms:

- TDR/FDR pledged in favor of the Managing Director, Guwahati Utilities Company Limited, Ganeshguri, Guwahati – 781006, payable at Guwahati.

- 16.2 TDR/FDR issued as surety for the bid shall be valid for at least 45 days beyond the validity of bids.

- 16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.

- 16.4 The Bid Security of unsuccessful bidders will be returned within 28 days of the end of the bid validity period specified in Sub-Clause 15.1.

- 16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

- 16.6 The Bid Security may be forfeited

(a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;

(b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or

(c) In the case of a successful Bidder, if the Bidder fails within the specified time limit to

(i) Sign the Agreement; or

(ii) Furnish the required Performance Security.

## **17. Alternative Proposals by Bidders**

- 17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.

**18. Format and Signing of Bid**

- 18.1** The Bidder shall submit both technical and financial bids through on-line. One hard copy of technical bid along with supporting documents (Affidavits, Bid security, cost of bid, undertakings in original & other certificates) of the documents comprising the bid as described in Clause 12 of these Instructions to Bidders, bound with the volume containing the "Technical Bid" and clearly marked **"HARDCOPY of Technical bid"** shall be submitted. In the event of discrepancy between on line & manual technical bid, **the one submitted online will govern.**
- 18.2** A hard copy of the Technical Bid shall be typed or written in indelible ink and shall be signed (in **Blue Ink** only) by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub-Clauses 4.3. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid. ***Each and every signature must be dated. Full Name of the bidder shall be mentioned at least in the Contractor's Bid Form.***
- 18.3** The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 18.4** The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

**D. SUBMISSION OF BIDS**

**A) On-line :** Technical Bid with scanned copies of Bid security, cost of document and other supporting documents like (i) Certificate of similar nature of work done (ii) affidavit of machineries/equipment's registered in a court of Law affirming that he will use the stated machineries/ equipment's to carry out the contract (iii) Undertaking of Technical key persons proposed by the bidder (iv) credit facilities (minimum 25% of notified contract value) certified by the bankers (v) Undertaking for investment of minimum cash up to 25% of the value of the work & affidavits etc. as per clause 12.1 of the ITB & other necessary documents mentioned in section 2 & clause 4.2 of ITB.

**Financial Bid: (Only On-line) should be submitted separately as VOLUME-II**

a. Form of Bid as specified in Section 2

**B) Off-line:** Cost of bidding document (in ORIGINAL), Bid Security (in ORIGINAL), one hard copy of technical bid (supporting documents only etc.) as per clause 12.1 of the ITB for verification & checking authenticity of documents during evaluation.

**19. Sealing and Marking of Bids**

- 19.1.** The Bidder shall seal the hard copy of the Technical Bid in envelope as **"Technical Bid"**.
- 19.2.** Technical Bid to be opened on 29/07/2025 (14:00 Hours.).  
The contents of Technical and Financial Bid will be as specified in Clause 12.1
- 19.3.** The envelopes containing hard copy of Technical Bid shall be addressed to the Employer at the following address:

a) The Managing Director, Guwahati Utilities Company Limited,  
Ganeshguri, Guwahati

– 781006, and

b) Bear the following identification:

- Bid for \_\_\_\_\_ ;

- Package No. \_\_\_\_\_

- Bid Reference No. \_\_\_\_\_

- DO NOT OPEN BEFORE \_\_\_\_\_

**19.4.** In addition to the identification required in Sub-Clause 19.1 and 19.2, the envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21, or the Evaluation Committee declares the Bid as non-responsive pursuant to Clause 23.

**19.5.** If the outer envelope is not sealed and marked as above, the Employer, will assume no responsibility for the misplacement or premature opening of the bid.

**19.6. Prospective bidders must obtain digital certificate with E-Tendering service Provider before the participation to bid.**

**Note :- ( Both bids will be submitted online)**

## **20. Deadline for Submission of Bid**

**20.1.** Complete Bids (including Technical and Financial Bids) must be received by the Employer at the address specified above not later than the date indicated in N.I.T. In the event of the specified date for the submission of bids declared as holiday on the date of receipt of the bids as specified the bids will be received and opened on the next working day at the same time and venue.

**20.2.** The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the Bidders previously subject to original deadline will then be subject to the new deadline.

**20.3.** Online bids will be digitally signed as laid out in e-tendering instructions.

**20.4.** For Online bids, bid hashes must be submitted before the expiry date of “Online Bid preparation and Hash submission” as per the tender schedule published for this tender on the web site.

**20.5.** The online bids must be submitted before the expiry date of “Online Bid Submission” as per the tender schedule published for this tender on the web site.

**20.6.** Online Bids will not be allowed to be submitted after the prescribed deadline.

**20.7.** Demand Draft/Bankers Cheque in favor of The Employer for the cost of bidding document should be placed in a separate cover marked “Cost of Bidding document”

and submitted with the original paper submission for Technical Bids. Bids not accompanying cost of Document will not be considered.

## **21. Late Bids**

**21.1** Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

**22. Modification and Withdrawal of Bids**

- 22.1 Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20.
  - 22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "**WITHDRAWAL**", as appropriate.
  - 22.3 No bid may be modified after the Deadline for submission of bids except in pursuance of Clause 23
  - 22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.
  - 22.5 Deleted.
- E. BID OPENING AND EVALUATION**
- 23. Bid Opening: The bid opening will be carried out as per criteria of E-tendering.**
  - 23.1. Deleted
  - 23.2. Deleted
  - 23.3. Deleted
  - 23.4. "Financial Bids" of those bidders whose technical bids have been determined to be responsive and on evaluation fulfills the qualification criteria shall be opened on a subsequent date, which will be notified to such bidders.
  - 23.5 The minutes of the Bid opening, including the information disclosed to those present in accordance with Clause 23.1, shall be prepared.
  - 23.6 After the opening of the technical bids their evaluation will be taken up with respect to bid security, qualification information and other information furnished in Part I of the bid in pursuant to clause 12, thereafter on fulfilling the criteria laid down in 26.2, a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.
  - 23.7 The Employer shall inform the bidders, whose technical bids are found responsive, of the date, time and place of opening of the financial bids. The bidders so informed, or their representative, may attend the meeting of opening of financial bids.
  - 23.8 Deleted

23.9 Financial bids of qualified bidders will be opened as per criteria of E-tendering.

23.10 Deleted

23.11 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.6.

## **24 Process to Be Confidential**

24.1 Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

## **25 Clarification of Financial Bids**

25.1. To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 27.

25.2. Subject to sub-clause 25.1, no Bidders shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidders wish to bring additional information to the notice of the Employer, it should do so in writing.

25.3. Any effort by the Bidders to influence the Employer in the bid evaluation, bid comparisons or contract award decisions may result in the rejection of the Bidders' bid.

## **26 Examination of Bids and Determination of Responsiveness**

26.1. During the detailed evaluation of "Technical Bids", the Employer will determine whether each Bid (a) meets the eligibility criteria.

26.2. Criteria defined in Clause 3 and 4, (b) has been properly signed (c) is accompanied by the required securities and (d) is substantially responsive to the requirements of the Bidding documents. During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specification, and drawings.

26.3. A substantially responsive "Financial Bid" is one, which conforms to all the terms, conditions, and specifications of bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer right or the Bidder's obligations under the contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

26.4. If a "Financial Bid" is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawals of the non-conforming deviation or reservation.

## **27 Correction of Errors**

27.1. Bid determined to be substantially responsive will be checked by the employer for any arithmetic errors. Errors will be corrected by the employer as follows-

- (a) Where the discrepancy between the rates in figures and in words, the rate in the words will govern; and
- (b) Where there is a discrepancy between the unit and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

27.2. The amount stated in the bid will be adjusted by the employer in accordance with the above procedure for the correction of errors and with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, the bid shall be rejected, and the bid security may be forfeited in accordance with the sub-clause 16.6 (b).

## **28 Evaluation and Comparison of Financial Bids**

28.1. The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.

28.2. In evaluating the Bids the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- a) Basis for evaluation of financial bids will be the latest APWD Schedule of Rates (Civil, Sanitary & water supply & **Electrical works**) 2013-2014 OR departmentally approved rate of GUCL as considered in the relevant estimates.
- b) Making any correction for errors pursuant to Clause 27; or
- c) Making an appropriate adjustment for any other acceptable variations, deviations; and
- d) Making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub-Clause 23.6.
- e) Rounding the Bid Price to the nearest rupee as per Government circular.

28.3. The Employer reserves the right to accept or reject any variation or deviation. Variations and deviations and other factors, which are in excess of the requirements of the Bidding documents or otherwise results in unsolicited benefits for the Employer, shall not be taken into account in Bid evaluation.

28.4. The estimated effect of the price adjustment conditions under Clause 47 of the *Condition of Contract*, during the period of implementation of the contract, will not be taken into account in Bid evaluation.

28.5. If the Bid of the successful Bidder is seriously unbalanced (more than 10% high or low) in relation to the Department's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analysis for any or all item of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction and installation methods and schedule proposed. After evaluation of the price analysis, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

29 A bid unrealistically priced low or high shall be rejected as non-responsive. The whole tendering and evaluation process will be scrutinized and finalized by the tender Evaluation Committee, GUCL and the decision taken by the committee will be binding on the bids.

**30. Award Criteria****AWARD OF CONTRACT**

30.1. Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bids have been determined.

- i. To be substantially responsive to the Bidding documents both in technical & financial aspects of the bid.
- II. To be within the available Bid capacity adjusted to account for his quoted bid price.
- III. The work shall be awarded at the lowest responsive bid price.
- IV. The Employer is not in a compulsion to award the work to the lowest bidder.

*In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such case be awarded to the next lowest bidder at his evaluated bid.*

31. Deleted

**32. Employer's right to accept any Bid and to reject any or all Bids.**

32.1. Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all bids, at any time prior to the awards of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligations to inform the affected Bidder or Bidders of the grounds for the Employer's actions.

**33. Notification of Award and Signing of Agreement**

33.1. The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

33.2. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 32.

33.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be kept ready for signature of the successful bidder in the office of employer within 14 days following the notification of award along with the Letter of Acceptance.

33.4. Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

**34. Performance Security**

34.1. Within 15 (Fifteen) days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to 5% (Five p.c.) of the Contract price plus additional security for unbalanced Bids in accordance with Clause 28.5 of ITB and Clause 47 of Conditions of Contract:

- i. A bank guarantee in the form given in Section 6; or
- ii. TDR/FDR pledged in favor of the Managing Director, Guwahati Utilities Company Limited, Ganeshguri, Guwahati – 781006, payable at Guwahati.

- 34.2. The additional performance security for unbalanced Bids shall be 20% of the difference of cost of the unbalanced items rounding off to the nearest thousand.
- 34.3. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued at the Bidder's option, by a Nationalized/Scheduled Indian bank located in India and acceptable to the Employer.
- 34.4. Failure of the successful bidder to comply with the requirements of sub-clause 34.1 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security and any such other remedy the Employer may take under the contract, and the Employer shall resort to awarding the contract to the next ranked bidder.

**35. Advance Payments and Security**

- 35.1. Deleted.

**36. Adjudicator**

- 36.1. The Employer may propose to appoint Adjudicator under the Contract, at a daily retainer fee to be announced plus daily allowances and reimbursable expenses. The Bidder shall bear part or full expenses for the adjudicator in case of a dispute requiring the appointment of the adjudicator.

**37. Fraud and Corruption:**

- 37.1. It is the Guwahati Municipal Corporation's policy to require that bidders, suppliers, Contractor and their agents (whether declared or not), sub-Contractor, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of contracts. In pursuance of this policy, the GUCL:

(a) Defines, for the purposes of this provision, the terms set forth below as follows:

(i) "Corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

(ii) "Fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

(iii) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;

(iv) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

(v) "Obstructive practice" is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation,

(vi) The Employer shall reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-Contractor, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices



in competing for the contract in question;

(vii) The Employer shall sanction a firm or individual, at any time, by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded contract; and (ii) to be a nominated 7 sub-Contractor, consultant, supplier or services provider of an otherwise eligible firm being awarded contract;

- 37.2. Furthermore, Bidders shall be aware of the provision stated in sub-clause 28.2 and subclause 57 of the Conditions of Contract.
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**SECTION 2:**

**FORMS OF BID, QUALIFICATION-INFORMATION  
AND LETTER OF ACCEPTANCE**

**Table of Forms:**

- **CONTRACTOR'S BID**
- **QUALIFICATION INFORMATION**
- **LETTER OF ACCEPTANCE**
- **NOTICE TO PROCEED WITH THE WORK**
- **AGREEMENT FORM**

**Contractor's Bid****Description of the Works:** \_\_\_\_\_\_\_\_\_\_  
\_\_\_\_\_

To,

The Managing Director, Guwahati Utilities Company Limited,  
Ganeshguri, Guwahati-781006.

Dear Sir,

Having examined the bidding documents including addendum, we offer to execute the Works described above in accordance with the Conditions of Contract, Specifications, and Drawings accompanying this Bid for the Contract Price of Rs \_\_\_\_\_ *[in figures](Rupees*

\_\_\_\_\_) *[in letters]*.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We also undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.

We agree to abide by this tender, and it shall remain binding upon us.

We hereby confirm that this Bid complies with the Eligibility, Bid Validity and Bid Security required by the Bidding documents.

Yours faithfully,

Authorized Signature:

Name &amp; Title of Signatory:

**Full Name of Bidder: (In Capitals only)** \_\_\_\_\_

Address:

Contact No.:

### Qualification Information

The information to be filled in by the Bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

#### 1. For Individual Bidders

##### 1.1 Constitution or legal status of Bidder *[Attach copy]*

Place of registration: \_\_\_\_\_

Principal place of business: \_\_\_\_\_

Power of attorney of signatory of Bid *[Attach]*

##### 1.2 Total value of Engineering (Electrical) work/supply executed and payments received in the last three/five years\*\* (*Attach certificates from Engineer-in-charge not below the rank of Executive Engineer*)

2017- 2018 \_\_\_\_\_

2018- 2019 \_\_\_\_\_

2019- 2020 \_\_\_\_\_

2020- 2021 \_\_\_\_\_

2021- 2022 \_\_\_\_\_

##### 1.3.1 Work performed as prime Contractor (in the same name) on works of a similar nature over the last three/five

Name of Work	Name of Employer*	Description of Work	Contract No.	Value of Contract(Rs in L)	Date of Issue of Work Order	Stipulated period of Completion	Actual Date of Completion	Remark

(Use separate sheet using landscape orientation)

**1.3.2** Quantities of work executed as prime Contractor (in the same name and style) in the last three/five years: \*\*

Name of the Work	Name of the Employer	Quantity of work performed					
		Supply, Installation, testing and Commissioning of power transformer	Erection, testing and commissioning of power lines with pole for		Supply, Erection, testing and commissioning of		
			LT ( 415 V) lines (km)	HT ( 11000 V) lines (km)	LED lights	Solar powered lights	High Mast lights

*\*Attach certificate(s) from the Engineer(s)-in-Charge*

*@The item of work for which data is requested should tally with that specified in ITB clause 4.4A( c).*

*\*\* Immediately preceding the financial year in which bids are received.*

**1.4** Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

**(A)** Existing commitments and on-going works:

Name of Work	Place	Contract No & Date	Name & Address of Employer	Value of Contract (Rs in L)	Stipulated period of completion	Value of * works remaining to be completed (Rs in L)	Anticipated Date of completion

*\* Attach certificate(s) from the Engineer(s)-in-Charge.*

*(Use separate sheet in landscape orientation)*

**(B)** Works for which bids already submitted:

Name of work	Place	Name & Address of Employer	Estimated Value of Works (Rs in L)	Stipulated period of completion	Date when decision is expected	Remarks,if any


*(Use separate sheet in landscape orientation)*

- 1.5** The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3 (e) of the Instructions to Bidders.

Sl. No.	Item of Equipment	Requirement		Availability Proposal					Remarks
		No.	Capacity	Owned (No.)	Leased (No.)	To be procured (No.)	Capacity	Age & condition	
1.	Truck mounted hydraulic ladder	01							
2.	Telescopic ladder	01							
3.	IR measurement device	01							
4.	Work-man's safety gear	15							
5.	Welding M/C	02							
6.	Diesel Electric Generator	01							
7.	Tool-box (Consisting Wrenches, live wrench, screw driver, striping pliers, multi-meter, electrical tap, measuring tap, electrician tap etc).	10							
8.	Working DI truck with life table	03							
9.	Warning signs, flash-lamps with lift stations	15							

- 1.6** Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to Sub-Clause 4.3 (f) and 4.3 (g) and 4.4 (B) (b) of instructions to Bidders and Sub Clause 9.1 of the Conditions of Contract. At least one Project Manager and one Technical Person [Graduate Engineer (Electrical) with three years' experience/Diploma Engineer (Electrical) with five years' experience] for contracts of value more than Rs 50.00 Lakhs would be required. For contracts worth less than Rs 50.00 Lakhs, one Graduate Engineer (Electrical) and one Supervisor (Electrical) with 5 – 10 years' experience in electrical works would be required.

- 1.7** Deleted.

- 1.8** Evidence of access to financial resources to meet the qualification requirements:

cash in hand, lines of credit, etc. List them below and attach copies of support documents

*[Sample format attached].*

- 1.9.** Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

- 1.10** Statement of compliance under the requirements of Sub Clause 3.2 of the instructions to Bidders.

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- 1.11** Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 and 4.3 (m)].

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT  
FACILITIES –\* CLAUSE 4.4 [B] [c] OF ITB**

BANK CERTIFICATE

This is to certify that M/s. .... is a reputed company with a good financial standing.

If the contract for the work, namely; -.....  
Package No.....  
is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs..... to meet their working capital requirements for executing the above contract.

Name of Bank  
Address of the Bank

Senior Bank Manager



**Letter of Acceptance**  
(Letterhead paper of the Employer)

To: \_\_\_\_\_ [date]

\_\_\_\_\_  
[name and address of the Contractor] Dear

Sirs,

This is to notify you that your Bid dated \_\_\_\_\_ for execution of the \_\_\_\_\_ [name of the contract and identification number, as given in the Instructions to Bidders] for the Contract Price of Rupees \_ ( \_\_\_\_\_ ) [amount in words and figures], as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 28.5, in the form detailed in Para 34.3 of ITB for an amount of Rs. ———— within 7 days of the receipt of this letter of acceptance valid up to 28 days from the date of expiry of Defects Liability Period i.e. up to.....and sign the contract, failing which action as stated in Para 32.4 of ITB will be taken.

Yours faithfully,

Authorized Signature

Name and Title of Signatory

Name of Agency

**Issue of Notice to proceed with the work**  
(Letterhead of the Employer)

\_\_\_\_\_(date)

To

\_\_\_\_\_ (name and address of the Contractor)

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

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB clause 34 and signing of the contract agreement for the construction of \_\_\_\_\_@ a Bid Price of Rs.

\_\_\_\_\_, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

**Agreement Form  
Agreement**

This agreement, made the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_,  
between \_\_\_\_\_

\_\_\_\_\_  
[name and address of Employer] (hereinafter called "the Employer") of the one part and

\_\_\_\_\_  
[name and address of  
Contractor] (hereinafter called "the Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute

\_\_\_\_\_  
[name and identification  
number of Contract] (Hereinafter called "the Works") and the Employer has accepted the Bid by the  
Contractor for the execution and completion of such Works and the remedying of any defects  
therein, at a contract price of  
Rs. ....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - i) Letter of Acceptance;
  - ii) Notice to proceed with the works;
  - iii) Contractor's Bid;
  - iv) Contract Data;
  - v) Conditions of contract (including Special Conditions of Contract);
  - vi) Specifications;
  - vii) Bill of Quantities

viii) Drawings ; and

ix) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of \_\_\_\_\_

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said \_\_\_\_\_ in the presence of:

Binding Signature of Employer \_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

### **SECTION 3: CONDITIONS OF CONTRACT**

## Conditions of Contract

### A. General

#### 1. Definitions

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

**Bill of Quantities** means the priced and completed **Bill of Quantities** forming part of the Bid.

**Compensation Events** are those defined in Clause 40 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 49.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in **Clause 2.3** below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body who's Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

**Days** are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the Contractor to act in replacement of the Engineer) who is responsible for supervising the execution of the works and administering the Contract.

**Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to execute the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract

Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

**Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.

**Plant** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

**Site Investigation Reports** are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site, existing street-illumination system of the site including the source of power-supply and transformers.

**Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer. In any case of ambiguity, it would be the specifications as per the latest BIS Code and notifications of the Govt.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Sub-Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

**Temporary Works** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

**Extended period of maintenance** is the period over which, contractor is to maintain the system of works executed with required O & M as schedule beyond the defect liability period as mentioned in the **contract data**.

## 2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date, Extended Period of Maintenance apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- (1) Agreement
- (2) Letter of Acceptance, notice to proceed with the works
- (3) Contractor's Bid
- (4) Contract Data
- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Bill of Quantities
- (8) Drawings and
- (9) Any other document listed in the Contract Data as forming part of the Contract.

### **3. Language and Law**

- 3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

### **4. Engineer's Decisions**

- 4.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

### **5. Delegation**

- 5.1 The Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

### **6. Communications**

- 6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

### **7. Subcontracting**

- 7.1 The Contractor may subcontract with the approval of the Engineer but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

### **8. Other Contractor**

- 8.1 The Contractor shall cooperate and share the Site with other Contractor, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractor. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other Contractor and shall notify the Contractor of any such modification.

### **9. Personnel**

- 9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and



relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

- 9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

## **10. Employer's and Contractor's Risks**

- 10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

## **11. Employer's Risks**

- 11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

## **12. Contractor's Risks**

- 12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

## **13. Insurance**

- 13.1 Deleted

## **14. Site Investigation Reports**

- 14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

## **15. Queries about the Contract Data**

- 15.1 The Engineer will clarify queries on the Contract Data.

## **16. Contractor to construct, install and execute the Works**

- 16.1 The Contractor shall construct, install and execute the Works in accordance with the Specification and Drawings, and as per instructions of Engineer.

## **17. The Works to Be Completed by the Intended Completion Date**

- 17.1 The Contractor may commence execution of the Works on the Starting Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

## **18. Approval by the Engineer**

- 18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.
- 18.2 The Contractor shall be responsible for design of Temporary Works.
- 18.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.
- 18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

## **19. Safety**

- 19.1 The Contractor shall be responsible for the safety of all activities on the Site.

## **20. Discoveries**

- 20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

## **21. Possession of the Site**

- 21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.
- 21.2 *On possession of the site and not later than 07 (seven) days from issuance of the Notice to Proceed with the Work, the Contractor will erect permanent plaque/signage board in permanent nature as prescribed and approved by the Engineer-in-Site.*

## **22. Access to the Site**

- 22.1 The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured/fabricated/assembled for the works.

## **23. Instructions**

- 23.1 The Contractor shall carry out all instructions of the Engineer which comply with the applicable laws where the Site is located.

# **B. Time Control**

## **24. Program**

- 24.1 Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Program including Environmental Management Plan showing the general methods, arrangements, order, and timing for all the activities in the Works supported by **bar chart or any other method of graphical presentation such as Gantt Chart** along with monthly cash flow forecast. The employer may direct the contractor

to prepare the study/ surveying documents in format or tables decided or approved by the Engineer.

- 24.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 24.3 The Contractor shall submit to the Engineer, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 24.4 The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

## **25. Extension of the Intended Completion Date**

- 25.1 The Engineer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 25.2 The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

## **26. Delays Ordered by the Engineer**

- 26.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

## **27. Management Meetings**

- 27.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 27.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

## **28. Early Warning**

- 28.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be

provided by the Contractor as soon as reasonably possible.

- 28.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

## **C. Quality Control**

### **29. Identifying Defects**

- 29.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.
- 29.2 The Contractor shall permit the Employer's Technical auditor to check the Contractor's work and notify the Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer's responsibility as defined in the Contract Agreement.

### **30. Tests**

- 30.1 If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

### **31. Correction of Defects**

- 31.1 The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 31.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

### **32. Uncorrected Defects**

- 32.1 If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

*Note: Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits at reduced rates, Engineer will certify payments to Contractor accordingly.*

## **D. Cost Control**

### **33. Bill of Quantities**

- 33.1 The Bill of Quantities shall contain items for the supplying, installation, testing, commissioning, maintenance (for works in which maintenance for a definite period is a

part of contract package) work to be done by the Contractor.

- 33.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

#### **34. Changes in the Quantities**

- 34.1. If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent provided the change is attributed to the Department i.e., either the B.O.Q. is prepared by the department or variation is due to change/ modification ordered by the Department and the same exceeds 1% of initial Contract Price, the Engineer shall adjust the rate to allow for the change, duly considering,

- (a) Justification for rate adjustment as furnished by the Contractor,
- (b) Economies resulting from increase in quantities by way of reduced plant, equipment, and overhead costs,
- (c) Entitlement of Contractor to compensation events where such events are caused by any additional work

- 34.2 The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the Prior approval of the Employer.

- 34.3 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

#### **35. Variations**

- 35.1 All Variations shall be included in updated Programs produced by the Contractor.

#### **36. Payments for Variations**

- 36.1 The Contractor shall provide the Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.

- 36.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the quantity of work above the limit stated in Sub Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work.

- 36.3 If the Contractor's quotation is unreasonable (or if the Contractor fails to provide the Engineer with a quotation within a reasonable time specified by the engineer in accordance with Clause 40.1), the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.

- 36.4 If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall

be given and the Variation shall be treated as a Compensation Event.

- 36.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

**37. Cash flow forecasts**

- 37.1 When the Program is updated, the Contractor is to provide the Engineer with an updated cash flow forecast.

**38. Payment Certificates**

- 38.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously along with details of measurement of the quantity of works executed in a tabulated form as approved by the Engineer.
- 38.2 The Engineer shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 46.4 of the Contract Data (Secured Advance).
- 38.3 The value of work executed shall be determined by the Engineer after due check measurement of the quantities claimed as executed by the Contractor.
- 38.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 38.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 38.6 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

**39. Payments**

- 39.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at 8% per annum.
- 39.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 39.3 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

**40. Compensation Events**

- 40.1 The following are Compensation Events unless they are caused by the Contractor:
- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.
  - (b) The Employer modifies the schedule of other Contractor in a way which affects the work of the Contractor under the contract.
  - (c) The Engineer orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
  - (d) The Engineer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.
  - (e) The Engineer unreasonably does not approve for a sub-contract to be let.
  - (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
  - (g) The Engineer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
  - (h) Other Contractor, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
  - (i) The advance payment is delayed.
  - (j) The effect on the Contractor of any of the Employer's Risks.
  - (k) The Engineer unreasonably delays issuing a Certificate of Completion.
  - (l) Other Compensation Events listed in the Contract Data or mentioned in the Contract.
- 40.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The Engineer shall decide whether and by how much the Intended Completion Date shall be extended.
- 40.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Engineer and the Intended Completion Date shall be extended accordingly. If the Contractor's forecast is deemed unreasonable, the Engineer shall adjust the Intended Completion Date based on Engineer's own forecast. The Engineer will assume that the Contractor will react competently and promptly to the event.
- 40.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer.
- 41. Tax.**
- 41.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

**42. Currencies**

- 42.1 All payments shall be made in Indian Rupees.

**43. Price Adjustment**

- 43.1 Contract price shall not be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants during the tenure of the contract.
- 43.2 To the extent that full compensation for any rise or fall in costs to the Contractor, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

**44. Retention**

- 44.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.
- 44.2 On Completion of the whole of the Works half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- 44.3 On completion of the whole works, the Contractor may substitute retention money (*balance half*) with an "on demand" Bank guarantee.

**45. Liquidated Damages**

- 45.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.
- 45.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the over payment calculated from the date of payment to the date of repayment at the rates specified in Sub Clause 43.1.
- 45.3 If the Contractor fails to comply with the time for completion as stipulated in the tender, then the Contractor shall pay to the employer the relevant sum stated in the Contract Data as Liquidated damages for such default and not as penalty for everyday or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the contract data.

The employer may without prejudice to any other method of recovery deduct the amount of such damages from any monies due or to be due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the works or from any other of his obligations and liabilities under the contract.

On attaining maximum limit of liquidated damage by the Contractor the Executive Engineer may cancel the work within 7 days' notice and balance work will be



completed by the department through other agency at the risk & cost of the Contractor.

- 45.4 If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking – Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, a applicable. The provisions of this Sub- Clause shall only apply to the rate of liquidated damages and shall not affect the limitthereof.

**46. Advance Payment**

- 46.1 Deleted.

- 46.2 **Secured Advance** - Deleted

**47. Securities**

- 47.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion. The performance security of a joint venture shall be in the name of the joint venture.

**48. Cost of Repairs**

- 48.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

## **E. Finishing the Contract**

**49. Completion**

- 49.1 The Contractor shall request the Engineer to issue a **Certificate of Completion** of the Works and the Engineer will do so upon deciding that the Work is completed. In case of works which includes a maintenance component, this certificate of completion will mean the completion of the first part of the contract only excluding the maintenance component for which completion certificate will be issued only after successful completion of the extended maintenance period. Hence, completion certificate will be issued in two stages, first one will be the **Certificate of Completion - 1** (excluding the maintenance part) and the second will be the **Certificate of Completion - 2** (including the maintenance part)

**50. Taking Over**

- 50.1 The Employer shall take over the Site and the Works within seven days of the Engineer issuing a Certificate of Completion-2 and Information sharing, Record-sharing etc. are satisfactorily completed by the contractor at the end of the Defect Liability Period In case of works which includes a maintenance component, the taking over will be at the successful completion of the period of maintenance on signing of the taking-over documents by both contractor and the owner.

## **51. Final Account**

- 51.1 The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a No Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

## **52. Operating and Maintenance Manuals**

- 52.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.
- 52.2 If the Contractor does not supply the Drawings and/or manuals/ Field Reports by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.
- 52.3 If the package of work includes a provision for maintenance for extended maintenance period, the format and details of document will be issued by the Engineer.

## **53. Termination**

- 53.1 The Employer or the Contractor may terminate the Contract if the other party causes a **fundamental breach of the Contract**.
- 53.2 **Fundamental breaches of Contract** include, but shall not be limited to the following:
- (a) The Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer;
  - (b) The Engineer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days;
  - (c) The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
  - (d) A payment certified by the Engineer is not paid by the Employer to the Contractor within 56 days of the date of the Engineer's certificate;
  - (e) The Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
  - (f) The Contractor does not maintain a security which is required;
  - (g) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
  - (h) If the Contractor, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 57, in competing for or in executing the Contract.

- 53.3 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 53.2 above, the Engineer shall decide whether the breach is fundamental or not.
- 53.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 53.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure, hand over all information, data, document and records to the employer and leave the Site as soon as reasonably possible.

#### **54. Payment upon Termination**

- 54.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.
- 54.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

#### **55. Property**

- 55.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

#### **56. Release from Performance**

- 56.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

#### **57 Fraud & Corruption**

- 57.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 53 shall apply.

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the works, then that employee shall be removed in accordance with Clause 9 (Personnel). For the purposes of this Sub-Clause:

(i) "Corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party\*;

(ii) "Fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation\*\*;

(iii) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party#;

(iv) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party\$;

(v) "Obstructive practice" is

(aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of GUCL's inspection rights.

*\* For the purpose of this sub-paragraph, "another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes GUCL staff and employees of other organizations taking or reviewing procurement decisions.*

*\*\* For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "Obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.*

*# For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non competitive levels, or are privy to each other's bid prices or other conditions.*

*\$ For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.*

## **F. Special Conditions of Contract**

### **1. LABOUR:**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

### **2. COMPLIANCE WITH LABOUR REGULATIONS:**

During continuance of the contract, the Contractor and his sub-Contractor shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

#### **SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK**

- a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :
  - (i) Pension or family pension on retirement or death, as the case may be.
  - (ii) Deposit linked insurance on the death in harness of the worker.
  - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

- e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employments.
- g) Payment of Wages Act 1936: It lies down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and gets the same certified by the designated Authority.
- l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.

- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

### 3. SUB-CONTRACTING (GCC Clause 7)

Please add the following as Clause 7.2:

The Contractor shall not be required to obtain any consent from the employer for:

- a) The sub-contracting of any part of the Works for which the Sub-Contractor is named in the contract;
- b) The provision of labour; and
- c) The purchase of materials which are in accordance with the standards specified in the Contract.

Beyond this if the Contractor proposes sub-contracting any part of the work during execution of works, because of some unforeseen circumstances to enable him to complete the work as per terms of the contract; the Engineer will consider the following before according approval:

- The Contractor shall not sub-contract the whole of the Works. The limit for sub-contracting shall be 25% of the Contract price. Proposal for sub-contracting shall contain detailed experience, equipment and personnel for sub-Contractor along with items and quantities to be sub contracted.
- The Contractor shall not sub-contract any part of the Work without prior consent of the Engineer. Any such consent shall not relieve the Contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-Contractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents or workmen.
- The Engineer should satisfy whether (a) the circumstances warrant such sub-contracting; and (b) the sub-Contractor so proposed for the Work possess the experience, qualifications and equipment necessary for the job proposed to be entrusted to them in proportion to the quantum of work to be sub-contracted.
- If payments are proposed to be made directly to that sub-Contractor, this should be subject to specific authorization by the prime Contractor so that this arrangement does not alter the Contractor's liability or obligations under the contract.

*(Note: 1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 20 percent of the Bid Price. For each such proposal the*

*qualification and the experience of the identified sub-Contractor in the relevant field should be furnished along with the bid to enable the employer to satisfy himself about their qualifications before agreeing for such subcontracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract.*

*2. However, [a] sub contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for subcontracting is not acceptable.*

*[b] In any case, proposal for subcontracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.*

*3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.*

#### **4. ARBITRATION**

The procedure for arbitration will be as follows:

- a) In case of Dispute or difference arising between the Employer and a domestic Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996.
- b) Arbitration proceedings shall be held at Guwahati, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- c) The disputes or differences arising shall be referred to a Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority, namely the Indian Council of Arbitration.
- d) Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the owners shall not be withheld, unless they are the subject matter of the arbitration proceedings.

#### **5. PROTECTION OF ENVIRONMENT:**

Add the following as GCC Clause 16.2:

The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the Contractor and his sub-Contractor shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

Salient features of some of the major laws that are applicable are given below:

The Water (Prevention and Control of Pollution) Act, 1974, this provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water.

'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life



and health of animals or plants or of aquatic organisms.

The Air (Prevention and Control of Pollution) Act, 1981, this provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The Environment (Protection) Act, 1986. This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the interrelationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

#### **6. LIQUIDATED DAMAGES:**

Sub-clause 44.1:

Please substitute the last sentence with the following:

“Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the Contractor from his obligation to complete the work as per agreed construction program and milestones or from any other of the Contractor’s obligations and liabilities under the contract.”

#### **7. PRIORITY OF DOCUMENTS:**

Sub-clause 2.3:

Please substitute sub paragraphs (a) to (j) with the following:

- a) Agreement,
- b) the Letter of Acceptance,
- c) Contractor’s Bid,
- d) the addenda ( if any)
- e) Special Conditions of Contract
- f) Contact Data;
- g) General Conditions of Contract
- h) Specifications
- i) Part-II-Supplementary Technical Specifications including additional Technical Specifications.
- j) Part-I General Specifications
- k) Part-III- Environmental Management Plan
- l) Bill of Quantities
- m) Drawings
- n) Any other documents forming part of the Contract.

#### **8. Safety & Welfare Provisions for labours to be employed by the Contractor/ supplier/ manufacturer/dealer**

All necessary personal safety equipment as considered adequate by the Engineer shall

be available for use of persons employed on the Site and maintained in a condition suitable for immediate use; and the Contractor shall take adequate steps to ensure proper use of such equipment by those concerned.

### **1. Safety Provisions:**

The Contractor shall comply with all the precautions as required for the safety of the workmen.

- i. All workmen at site shall be provided with safety helmets and yellow/orange jackets. Workmen required on site during night hours shall be provided with fluorescent yellow jackets with reflective lopes.
- ii. Workers employed on mixing asphaltic materials, cement, lime mortars, concrete etc. shall be provided with protective footwear, protective goggles.
- iii. Those engaged in handling any material, which is injurious to the eyes, shall be provided with protective goggles protective goggles.
- iv. Those engaged in welding works shall be provided with welder's protective eye- shield.
- v. Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- vi. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except for such short period work as can be done safely from ladders. When a ladder is used, an extra labourer shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable foot-holds and hand-holds shall be provided on the ladder, which shall be given an inclination not steeper than 1/4 to 1.
- vii. Scaffolding or staging more than 3.25 metres above the ground or floor, swung or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the support or structure.
- viii. Working platforms, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if the height of any platform or gangway or stairway is more than 3.25 metres above ground level or floor level, it shall have closely spaced boards, have adequate width and be suitably provided with guard rails as described in (vii) above.
- ix. Every opening in the floor of a structure or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of one metre.
- x. Safe means of access and egress shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 metres in length. The width between side rails in a rung ladder shall in no case be less than 30 cm for ladders up to and including 3 metres in length. For longer ladders the width shall be increased at least 6 mm for each additional 30 cm of length. Spacing of steps shall be uniform and shall not exceed 30 cm.
- xi. Adequate precautions shall be taken to prevent danger from electrical equipment. No

materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Contractor shall provide all necessary fencing and lights to protect the public from accidents and shall be bound to bear the expenses of defending every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.

- xii. Excavation and Trenching: All trenches, 1.5 metres or more in depth shall at all times be supplied with at least one ladder for each 20 metres in length or fraction thereof. Ladders shall be extended from the bottom of the trench to at least 1 metre above the surface of the ground. The sides of a trench, which is 1.5metres or more in depth shall be stepped back to provide a suitable slope, or be securely held by timber bracing so as to avoid the danger of side collapse. Excavated material shall not be placed within 1.5 metres of the edge of any trench or half the depth of the trench, whichever is more. Excavation shall be made from the top to the bottom. Under no circumstances shall undermining or undercutting be done.
- xiii. When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that manhole covers are open and manholes are ventilated at least for an hour before workers are allowed to go into them. Manholes so open shall be cordoned off with suitable railing and provide warning signals or boards to prevent accidents to the public.
- xiv. Demolition: Before any demolition work is commenced and also during the process of the work:
  - a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
  - b) No electric cable or apparatus, which is liable to be a source of danger other than a cable or apparatus used by operators, shall remain electrically charged:
  - c) All practical steps shall be taken to prevent danger to persons employed by the Employer, from risk of fire or explosion, or flooding. No floor, roof or other part of a building shall be so overloaded with debris or materials as to render it unsafe.
- xv. When work is performed near any place where there is risk of drowning all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- xvi. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following:
  - (a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good working order be regularly inspected and properly maintained.
  - (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from defects.
  - (c) For every hoisting machine and every chain hook, shackle, swivel and pulley block used in hoisting, lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe

working load. In case of a hoisting machine or a variable safe working load, each safe working load and conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to in the paragraph above shall be loaded beyond safe working load except for the purpose of testing

- xvii. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards; hoisting appliances shall be provided with such means as will reduce the risk of accident during descent of load to the minimum. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary, shall be provided. Workers shall not wear any rings, watches and carry keys or other material which are good conductors of electricity.
- xviii. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.
- xix. These safety provisions shall be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work location. Persons responsible for ensuring compliance with the Safety Code shall be named therein by the Contractor.
- xx. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer or his Representative.
- xxi. Notwithstanding anything contained in condition (i) to (xv) above, the Contractor shall remain liable to comply with the provisions of all acts, rules, regulations and bylaws for the time being in force in India and applicable in this matter. The Contractor shall be responsible for observance, by his sub-Contractor, of the foregoing provisions.
- xxii. The Contractor will not engage any worker if he not qualified, experienced, skilled and competent enough for the particular job of engagement. The Contractor must ensure that all the persons engaged by him possess the required license for doing the job from the competent authority.
- xxiii. The Contractor is to ensure that all safety and security provisions are made available to his workers as per relevant laws and rules. Personal safety of the workers engaged by the Contractor will be the responsibility of the Contractor.
- xxiv. The Contractor is to take all precautionary measures to prevent any type of accidents to the road-users and passers-by. In case of any accident resulting from the act of the Contractor or his team, the Contractor will be responsible and accountable.

## **2. Labour Welfare Provisions:**

### **i. First Aid:**

At every workplace, there shall be maintained in readily accessible place first aid appliances including an adequate supply of sterilised dressings and sterilised cotton wool as prescribed in the Factory Rules of the State in which the work is carried on. The appliances shall be kept in good order and, in large work places; they shall be placed under the charge of a responsible person who shall be readily available during working hours.

**ii. Accommodation for Labour:**

The Contractor shall during the progress of the work provide, erect and maintain necessary temporary living accommodation and ancillary facilities for labour at his own expense to standards and scales approved by the Engineer.

**iii. Drinking Water:**

In every workplace, there shall be provided and maintained at suitable places easily accessible to labour, a sufficient supply of cold water fit for drinking.

Where drinking water is obtained from an intermittent public water supply each workplace shall be provided with storage tanks where drinking water shall be stored.

Every water supply storage shall be at a distance of not less than 15 meters from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well, which is within such proximity of any latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door, which shall be dust proof and waterproof. A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection, which shall be done at least once a month.

**iv. Washing and Bathing Places:**

Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clean and drained condition.

**v. Scale of Accommodation in Latrines and Urinals:**

There shall be provided within the precincts of every workplace, latrines and urinals in an accessible place, and the accommodation, separately for each for these, shall not be less than at the following scale:

No. of Seats

(a) Where number of persons does not exceed 50 2

(b) Where number of persons exceed 50 but does not exceed 100 3

(c) For additional persons per 100 or part thereof 3

In particular cases, the Engineer shall have the power to increase the requirement, wherever necessary.

**vi. Latrines and Urinals:**

Except in work places provided with water-flushed latrines connected with a water borne sewage system, all latrines shall be provided with dry-earth system (receptacles) which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. Receptacles shall be tarred inside and outside at least once a year.

If women are employed, separate latrines and urinals, screened from those for men and marked in the vernacular in conspicuous letters "For women only", shall be provided. Those for men shall be similarly marked "For men only". A poster showing the figure of a man and a woman shall also be exhibited at the entrance to latrines for each sex. There shall be adequate supply of water, close to latrines and urinals.

**vii. Construction of Latrines:**

Inside walls shall be constructed of masonry or other non-absorbent material and shall be cement- washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for the purpose and kept available for inspection. Latrines shall have at least a thatched roof.

**viii. Disposal of Excreta:**

Unless otherwise arranged for by the local sanitary authority, arrangement for proper disposal of excreta by incineration at the workplace shall be made by means of a suitable incinerator approved by the local medical health and municipal or cantonment authorities. Alternatively, excreta may be disposed of by putting a layer of night soils at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).

The Contractor shall, at his own expense, carry out all instructions issued to him by the Engineer to effect proper disposal of soil and other conservancy work in respect of Contractor's work-purpose or employees on the site. The Contractor shall be responsible for payment of any charges, which may be levied by municipal or cantonment authority for execution of such work on his behalf.

**ix. Provisions of shelters during rest:**

At every workplace, there shall be provided, free of cost, four suitable sheds, two for meals and two others for rest, separately for use of men and women labour. The height of each shelter shall not be less than 3 metres from floor level to lowest part of roof. Sheds shall be kept clean and the space provided shall be on the basis of at least 0.5 sq.m. per head.

**x. Crèches:**

At a place where women are ordinarily employed, there shall be provided at least one hut for use of children under the age of 6 years belonging to such women. Huts shall not be constructed to a standard lower than that of thatched roof, mud floor and wall with wooden planks spread over mud floor and covered with matting.

Huts shall be provided with suitable and sufficient openings, for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be a maidservant in attendance.

Sanitary utensils shall be provided to the satisfaction of local medical, health or municipal or cantonment authorities. Use of huts shall be restricted to children, their attendants and mothers of children.

**xi. Canteen:**

A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered necessary.

**xii. Planning,** setting and erection of the above mentioned structures shall be approved by the Engineer or his Representative and the whole of such temporary accommodation shall at all times during the progress of the Works be kept tidy and in a clean and sanitary condition to the satisfaction of the Engineer or his representative and at the Contractor's expense. The Contractor shall conform generally to sanitary requirements of local medical, health and municipal or cantonment authorities and at all times adopt such precautions as may be necessary to prevent soil pollution of the Site.

On completion of the Works, the whole of such temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the whole of the site left clean and tidy, at the Contractor's

expense, to the entire satisfaction of the Engineer.

**xiii. Anti-malarial precautions:**

The Contractor shall, at his own expense, conform to all antimalarial instructions given to him by the Engineer, including filling up any borrow pits which may have been dug by him.

**xiv. Awareness and Education of HIV/AIDS**

The Contractor shall provide/carryout HIV/AIDS awareness and training programme to its labour and management, at least twice per year during the construction period.

**xv. Child Labour Prohibition**

The Contractor shall not employ Child Labour for any works or in any manner under the Contract at anytime. In the event that the Contractor uses child labour, the Employer shall terminate the Contract.

**xvi. Amendments:**

The Employer may, from time to time, add to, or amend these Rules and issue such directions as it may be considered necessary for the proper implementation of these Rules or for the purpose of removing any difficulty, which may arise in the administration thereof.

## **SECTION 4: CONTRACT DATA**



## Contract Data

Items marked "N/A" do not apply in this Contract.

SL	SUBJECTS	Clause with reference to Section 3
1	<b>The Employer is</b>  Name: Managing Director, Guwahati Utilities Company Limited, Address: Ganeshguri, Guwahati-781006, Assam, India	1.1
2	The Site is located at <b>Kamrup (M) District</b>	1.1
3	<b>The Engineer is</b>  Name: Superintending Engineer, GUCL, Ganeshguri, Guwahati- 06, Assam, India	1.1
4	<b>Name of Authorized Representative:</b>  The Junior Technical Officer, GUCL, Ganeshguri, Guwahati- 06, Assam, India	
5	<b>The name and identification number of the Contract is</b>  Package .... (Details-.....)	
6	<b>The Works consist of</b>  <b>A. Initial Study of the Project Area and Submission of Report:</b>  Surveying and field-study of the identified locations and stretch (as per package) of roads for collecting status of the existing street lighting system and its allied components and submission of information as per prescribed data-sheet/item list ( <b>As per formats to be prescribed by the Engineer</b> ). On the basis of that surveying and field study, the contractor will carry out the Operation and maintenance as per the following :  1. The up-gradation, replacement and repairing of all defective/defunct fittings, devices and luminaries of the project area within the <b>completion period and maintain the same for the one year.</b>  2. The <b>Comprehensive maintenance schedule</b> for the systems for a period of One Year (Maintenance period) Post installation will include the preventive maintenance as well as the normal corrective maintenance as required on day-to-day basis including warranty management of the supplied materials.  <b>B. Supply, installation, testing and Commissioning:</b>	

The contractor will supply the materials as per approved work-schedule and of the approve make and brand including installation, testing, commissioning. After completion of the work, the contractor will be responsible for maintenance of the same for the entire Maintenance Period.

### **C. Comprehensive Maintenance:**

After completion and Commissioning of the work, the contractor will be responsible for maintenance of the as per maintenance schedule. Maintenance shall be comprehensive in Nature including setting up of Support and telephonic support service for immediate grievance/issue solution.

The maintenance must be in adherence to the following broad parameters-

1. Minimum Manpower as per estimated details must be mandatorily arranged by the contractor as per estimate made available by the Engineer In charge .
2. Uptime must be at least 95% per month.
3. Rectification of defects must be done within 24 hrs unless the defect is unforeseen/ major. In such cases, directions of Engineer concerned shall be the ruling.
4. Maintenance must be comprehensive inclusive of all allied and associated items/services including proper earthing arrangement.

Comprehensive maintenance shall be in addition to the OEM warranty policies (as applicable)

### **D. Information sharing, Record-sharing and hand over:**

Before 45 days from the end of the Maintenance Period, the contractor will submit the details and status of the installation and luminaries to the Engineer-in-charge. The contractor will submit all the information & records of the installations in the project area including the warranty details applicable for the components on the intended date of hand over. On the intended date of hand-over, the contractor will hand over full control of the installations. All the liabilities of the contractor towards any third party of other agencies will remain with the contractor even after the hand-over is completed.

## **7 Special dates/periods of the contract:**

a. **Starting Date:** Shall be **7 days** succeeding the date of issue of Notice to Proceed with the Work.

b. **Intended date of Completion:** 90 days from the starting date.

c. **Date of Completion:** The date on which the Engineer issues the **Certificate of Completion**.

d. **Maintenance Period:** **365 days** succeeding the date of completion (As per **Completion Certificate**).

f. **Date of Hand-over:** At the end of the **Maintenance** Period or the date on which the document of installation-hand-over is signed by both the parties i.e., the Employer & the Contractor, whichever is later. This will be within 15 days from issuance of No Liabilities issued by the Engineer.

## **8 Project milestones**

**Mile stone-I** : Initial study of project area and submission of report - **20 days** from the date of issuance of Notice to Proceed with the work.

**Mile stone-II** : Completion of 50 percent of physical works - Within **45 days** from the date of issuance of the Notice to Proceed with the work.

**Mile stone -III** : Completion of 75 percent of the physical work - within **60 days** from the Notice to proceed with the Work.

**Mile stone IV:** Completion of 100 per cent of the physical work - within **90 days** from the Notice to proceed with the Work.

**Mile stone - V** : Comprehensive maintenance- As per actual requirement for **365 days**.

**9 The following documents also form part of the Contract:**

- a. Invitation for Bids
- b. Instruction to Bidders
- c. Conditions of contract
- d. Contract Data
- e. Specifications
- f. Bill of Quantities
- g. Drawings (if furnished to the bidder in the set of bid document issued)

**10 Schedule of Payment:**

- a. Payment will be made as per progress of work.

**11** The language of the Contract documents is **English**

**12** The law which applies to the Contract is the laws of Union of India

**13** Site investigation reports- As indicated in the drawings [14] Deleted

**14** The intended completion date for the works (excluding maintenance part) shall be **90 days** from the date of commencement.

**15** The Site Possession Dates shall be within seven days from the date of issue of Notice to Proceed with Work.

- 16 The Employer may require suggesting the Contractor to submit revised program in accordance with an agreeable alternate schedule of handing over of site for which no compensation events hold good.
- 17 The Contractor shall submit a revised Program including Environmental Management Plan/ Traffic Management Plan for the Works (in such form and detail as the engineer shall reasonably prescribe) within 14 days of delivery of the Letter of Acceptance. [24]
- This program should be in adequate details and generally conform to the program submitted along with bid in response to ITB Clause 4.3*
- Deviations if any from that should be clearly explained and should be satisfactory to the Engineer]*
- The period between Program updates shall be 30 days. [24]
- The amount to be withheld for late submission of an updated Program shall be Rs. 5 thousand [24]/per day
- 18 Erection of Plaque/signage board in permanent nature as prescribed by the Engineer-in-charge at their own cost = **Within 07 days from the issuance of the Notice to Proceed with the Work.** 21.2
- 19 Deleted
- 20 The **currency** of the Contract is **Indian Rupees**.
- 21 The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5% of final contract price [44]
- 22 Amount of the liquidated damages per day for non-completion of the section/total work as per the completion date specified in 1.1 are as under: [45]
- For: Milestone -I **Rs. 0.05% of Bid value per day**
- For Milestone -II **Rs. 0.05% of Bid value per day**
- For: Milestone -III **Rs. 0.05% of Bid value per day**
- For Milestone-IV **Rs. 0.5 % of Bid value per day**
- For Milestone- V – **Rs. 0.5 % of Bid value per day** ( As per conditions)
- 23 The maximum amount of liquidated damages for the whole of the works is 10% of final contract price.

- 24 The amounts of the advance payment are:
- 25 Deleted
- 26 The Securities shall be for the following minimum amounts equivalent as a percentage of the Contract Price:
- Performance Security for 5% per cent of contract price plus Rs. .... as additional security for unbalanced bids [in terms of ITB Clause 28.5].**
- 27 The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 6 of the Bidding Documents or Call Deposit/Term Deposit in favour of the Commissioner, Guwahati Municipal Corporation, payable at Guwahati
- 28 The following events shall also be fundamental breach of contract:
1. The Contractor has contravened Sub-clause 7 of GCC read with SCC and Clause 9.0 of GCC
  2. The Contractor does not adhere to the agreed construction program and agreed environmental management plan (Clause 24 of GCC) and also fails to take satisfactory remedial action as per agreements reached in the management meetings (Clause 27) for a period of 30 days.
  3. The Contractor fails to carry out of the instructions of Engineer within a reasonable time determined by the Engineer in accordance with GCC Clause 16.1 and 23.1.
- 29 The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be **20** per cent.

## **SECTION 5: TECHNICAL SPECIFICATIONS**

## **SECTION 5: TECHNICAL SPECIFICATIONS**

### **1. PREAMBLE**

1.1 The Technical Specifications contained herein shall be read in conjunction with the other bidding documents as specified in Volume I.

#### **1.1.1 General**

The Technical Specifications covering the materials and the workmanship aspects as well as method of measurements and payments are included in this section. These specifications cover the items of Electrical and civil works (including the auxiliary components) coming under scope of this document. All work shall be carried out in conformity with the same. These specifications are not intended to cover the minute details. The works shall be executed in accordance with good practices followed for achieving high standards of workmanship, thus ensuring safety and durability of the installed system of illumination. All codes and standards referred to in these specifications shall be the latest thereof, unless otherwise stated.

#### **1.1.2 Inclusive Documents**

The provisions of particular conditions of contract, those specified elsewhere in the tender document, as well as execution drawings and notes, or other specifications issued in writing by the Engineer shall form part of the technical specifications of this project.

1.1.3 The attention of the Contractor is drawn to those clauses of codes which require supporting specification either by the Engineer or by 'Mutual agreement between the supplier and purchaser'. In such cases, it is the responsibility of the bidder/Contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/installation/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the Contractor without involving separately any additional payment.

#### **1.1.4 Measurement and Payment**

Should there be any detail of construction or materials which has not been referred to in the Specification or in the Bill of Quantities and Drawings but the necessity for which may be implied or inferred therefrom, or which is usual or essential to the completion of the work in the trades, the same shall be deemed to be included in the rates and prices entered by the Contractor in the Bill of Quantities.

#### **1.1.5 Defective Works**

All defective works and supplies are liable to be demolished, rebuilt and defective materials replaced by the Contractor at his own cost and without involving any time extension.

### **1.2 Site Information**

1.2.1 The information given hereunder and provided elsewhere in these documents is given in good faith by the 'Employer', but the Contractor shall satisfy himself regarding all aspects of site conditions and no claim will be entertained on the plea that the information supplied by the Employer is erroneous or insufficient.

1.2.2 In general, the topography of the roads can be classified as plain terrain except in few locations.

### **1.2.3 General Climatic Conditions**

1.2.3.1 The temperature in the region fluctuates from 22° C to 38° C in summer and from 5° C to 27° C in winter.

1.2.3.2 Average annual rainfall in the project area is about 2000 mm. Most of it occurs during the monsoon months of April to September.

1.2.3.3 For wind speed the relevant reference will be as per BIS Code and wind map published by the Govt. of India.

1.2.3.4 Regarding measures against lightening, the reference will be as per the BIS Code and notifications published by the Govt. of India.

### **1.2.4 Seismic Zone**

The works are located in Seismic Zone-V as defined in IRC: 6-2000.

## **2. General Requirements**

The Technical Specifications, in accordance with which the entire work described hereinafter shall be provided, constructed and completed by the Contractor, comprise of the following:

### **2.1 PART - I: General Technical Specifications**

The General Technical Specifications shall be in accordance with approved drawings, APWD General Specifications; relevant IS Code of practice and National Building/Electrical Code of India.

### **2.2 PART- II: Supplementary Technical Specifications:**

**[Continued in the next page as Part-II of this section]**



**PART-2 of Section-5 :  
Supplementary Technical Specifications & Drawings**

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## **1.0 SCOPE OF WORKS**

- 1.1** The scope of works is as defined in the Vol I of the IFB Instruction to the BIDDERS.
- 1.2** Refer to list of sites for this project which may be extended to any part of Guwahati City as per requirement.

## **2.0 GENERAL INSTRUCTION TO CONTRACTOR**

- 2.1** This specification is the minimum requirement and should be read in conjunction with relevant latest specifications, requirements, rules and regulations of the Govt. and Local Authority. Any additional requirements as per Govt. and Local Authority or latest Standards shall be applicable. The same shall be indicated in the Technical Proposal.
- 2.2** All SAFETY considerations in design and manufacturing for safe operation & maintenance and safe practices during installation at site shall be in the scope of the CONTRACTOR. Cost towards accomplishing the same shall be included in the BID price and no extra claim shall be entertained later.
- 2.3** Equipment furnished/ supplied under this scope of works shall be complete in every respect with all mountings, fittings, fixtures, and standard accessories normally provided with such equipment and / or needed for erection, completion and safe operation of the equipment as required by applicable codes though they may not have been specifically detailed in the Technical Specification unless included in the list of exclusions. Materials and component not specifically stated in the specification but which are necessary for commissioning and satisfactory operation unless specifically excluded shall be deemed to be included in the scope of specification and shall be supplied without any extra cost. All similar standard components/ parts of similar standard equipment provided shall be inter-changeable with one another.
- 2.4** The CONTRACTOR shall be responsible for the selection and design of appropriate equipment to provide the best co-ordinated performance of the entire system. The design of various components, sub-assemblies and assemblies shall be so done that it facilitates easy field assembly and maintenance.
- 2.5** The CONTRACTOR shall be responsible for preparation of calculation and drawings like lighting, cabling, earthing and obtaining the approval from GUCL/Consultant.
- 2.6** CONTRACTOR shall plan and carry out all supply, installation, testing and commissioning of the lighting system conforming to the approved drawing, technical specification and good engineering practices.
- 2.7** The material supplied by the CONTRACTOR shall be subject to approval of the designated Authorities of GUCL. Samples of the Supply material under the scope of works shall be inspected by GUCL or their representatives either at site or at Manufacturer's works and approve them for supply and execution. Notwithstanding any approval/ instruction given otherwise, if the GUCL, during random check-up, finds any non-conformance with the quality of material supplied by the CONTRACTOR with respect to the technical specifications, GUCL shall have the Authority to reject the entire lot/ batch of that particular material and ask to replace without any cost impact to GUCL.

- 2.8** For all excavation works the CONTRACTOR shall restore the area/ road, as the case may be, after completing the installation work to its original condition. Taking away any excess material/debris and dumping at a place as per instructions of GUCL is included in scope.
- 2.9** During the construction at site, it shall be the CONTRACTOR's responsibility to take care of the safety and security of its person and material at site. The CONTRACTOR shall be self-reliant with all the requirements including tools and tackles for digging, filling, erecting, lifting, etc. Electricity and water required for construction shall be arranged by Contractor at his own cost.
- 2.10** The CONTRACTOR shall make provision for adequate no. of Ladder mounted vehicles self-sufficient with all the required tools and instruments, duly calibrated, for installation and maintenance to meet the deadlines and benchmarks specified.
- 2.11** The CONTRACTOR shall carryout the installations in a safe and responsible manner without any inconvenience or danger to public.
- 2.12** The CONTRACTOR shall take care not to damage any public/ private property by mistake or by intention during work with its actions and shall be well insured to compensate the owner in case any such incidence happens.
- 2.13** The CONTRACTOR shall also liaison with DISCOM and other Govt. Bodies like PWD, CEIG, APDCL, water board etc. for obtaining valid permission to work.
- 2.14** All the cost towards liaison with statutory Bodies/departments for seeking all necessary statutory approvals and other activities involving Govt. Agencies viz., drawing approval, testing and commissioning etc, shall be borne by the CONTRACTOR.
- 2.15** All the statutory fees for the above approvals shall be borne by GUCL. Such payments shall be reimbursed to the CONTRACTOR upon submission of stamped receipts to the GUCL. All the responsibilities related to installation, testing, commissioning and O & M of street lighting system in the identified Lanes and bye-lanes shall be borne by CONTRACTOR in respect of cost, managing the technical problems and other related aspect.
- 2.16** The GUCL shall not be responsible for untoward incidence, if occurred due to faulty design and poor installations. The CONTRACTOR would be responsible for any civil/criminal proceedings arising out of such incidence and for damage caused to life and property thereof.
- 2.17** The CONTRACTOR shall design the distribution of luminaires in such a way that the railway crossings for cable laying are avoided. If at any point crossing is required then the cost of Way leave charges to the Railway Department for seeking necessary approvals shall be borne by CONTRACTOR. Obtaining permissions from Railway authorities, carrying out the work as per the requirements of Railway authorities and obtaining approval of the same from the authority shall be in the scope of the CONTRACTOR.
- 2.18** NIL.
- 2.19** Upon completion of street lighting work on the main roads, fifteen (15)-days testing period will start to check the adequacy of the installed LED street lighting system. The issue of completion certificate to the CONTRACTOR is subject to successful testing and approval of GUCL.

- 2.20** GUCL is free to draw samples (not more than 0.5% per lot) after the start of supplies from the supplied quantity and subject the same to test in a NABL Accredited Lab. CONTRACTOR shall bear the cost of testing of such samples. The decision of GUCL on the same shall be binding on the CONTRACTOR. Failure of the sample will invite strict penalty and disqualification of the CONTRACTOR from future tenders also.
- 2.21** The clearance for carrying out dismantling works of existing Street Light Fittings shall be given only after successful completion of trial testing period of 15 days and performance approval from GUCL. The testing parameters shall be defined along with GUCL during execution.
- 2.22** The CONTRACTOR shall follow all Safety practices as per prevalent statute and practices for execution of work. All Personal Protective Equipment shall be provided for the Workmen/Staff in the Field while working. Failure to abide by the safety rules shall make the CONTRACTOR Liable for penalty/ Termination of contract (Under repeated incidences).
- 2.23** The CONTRACTOR shall be fully responsible for any damage and or for loss of life of his own employee or any outsider due to any accident, fire, hazards occurred during the work or after completion of work.

### **3.0 APPLICABLE CODES AND STANDARDS**

- 3.1** All the equipment and systems shall conform to the latest applicable National and International standards; and latest Rules and Regulation of the Local Authorities. The codes and standards mentioned in this specification shall be latest as on the day of execution of the works unless otherwise specified. The revisions in the relevant codes and standards if any after the date of award of contract shall be informed by the Contractor to the Consultant/ Owner within 30 days of the issue of such revision of the codes/ standards. Consultant/ Owner may approve use of the earlier code/ standard if the revisions do not materially affect the statutory requirements of the project or does not impact safety practices. Any cost impact arising out of such revisions shall be mutually agreed. Nothing in this specification shall be construed to relieve the CONTRACTOR of this responsibility

### **4.0 DESIGN CRITERIA**

4.0.1 Deleted

4.0.2 Deleted

4.0.3 Deleted

4.0.4 Deleted

4.0.5 Deleted

- 4.0.6 All the required Design Factors shall be considered as per the latest version of IS 1944 and National Lighting Code 2010.

4.0.7 Deleted

4.0.8 Deleted

4.0.9 Deleted

4.0.10 Deleted

4.0.11 Deleted

4.0.12 Deleted

#### **4.1 CABLE SIZING:**

4.1.1 The CONTRACTOR shall ensure that cable associated with the power distribution systems in all the installations throughout the Works are adequately rated for their use.

4.1.2 Deleted

4.1.3 Deleted

4.1.4 Deleted

4.1.5 Deleted

4.1.6 Deleted

4.1.7 Deleted

4.1.8 Deleted

#### **4.2 EARTHING SYSTEM**

4.2.1 The safety earthing and lightning protection system shall be based on the latest version of the following codes and standard including all amendments.

**TABLE 2: STANDARD AND GUIDELINES FOR EARTHING PROTECTION**

a)	IS 3043- 2018,	Code of practice for Safety Earthing
----	----------------	--------------------------------------

b)	CEA Regulations 2010	Measures related to safety & electric supply.
c)	CPWD Specifications – 2013	General Specifications for Electrical WorksPart I – Internal

#### 4.2.2 Size of Earthing Conductors

The earthing conductor sizes shall be calculated as per IS: 3043. Following factors will be considered for sizing the earthing conductor.

**TABLE 3: PARAMETERS FOR SIZING OF EARTH CONDUCTOR**

a)	Design Ambient Temperature	45 C
b)	Allowable temperature rise	500 C
c)	For steel welded joints Fault clearing time	1 second
d)	Overall earthing resistance	Less than 1 Ohms

4.2.3 GI Pipe electrodes shall be provided for Feeder Pillars-2 Nos. each, 1 No. for every consecutive 5 light poles and other systems as per the provisions of latest version of IS 3043 or better. Electrode shall be connected to the feeder pillar by two runs of GI strip of min size 25X6 mm. For street light poles, 8SWG wire shall be used for earthing laid in DWC pipe along with lighting cable.

4.2.4 Earth resistance value shall be as per prevailing standards and as acceptable by CEIG.

4.2.5 Requirements for APDCL Two Pole structure and transmission line shall be as per APDCL/ CEIG guidelines for which work will be carried out by APDCL.

#### 4.3 CIVIL DESIGN

4.3.1. All civil works required will be as per the relevant BIS code of practice.

#### 5.0 DETAILED FIELD SURVEY

5.1 CONTRACTOR shall carry out a Detailed Survey of the identified Lanes and bye-lanes to gather following information:

- (a) Road width at different stretches of a particular road; - including shoulder width and carriage way details;
- (b) Road Length of particular roads;



- (c) List out the requirements of particular roads for satisfactory illumination and control;
- (d) List out the components of the existing street lighting system;
- (e) List out the components in working condition and components not in function to find out the actual requirement of replacement and repairing including luminaries;
- (f) Survey and study the existing cabling system and find out any fault or defects in the system to quantify the requirement of replacement or repairing;
- (g) Examine the existing control system to find out any fault or defects in the system to quantify the requirement of replacement or repairing;
- (h) Collect the information regarding the installation period of the existing components and luminaries to understand their expected remaining life for scheduling replacement;
- (i) Prepare the information sheet in a format approved by the Engineer;

5.1.1 Deleted.

5.1.2 A Detailed Report shall be submitted by CONTRACTOR incorporating the survey findings and Offered Solutions including the work-plan for installation of the streets lights and the accessories for approval of the site-engineer.

5.1.3 Deleted.

5.1.4 Road wise drawings for GA layout with Sections for various stretches of the road shall be enclosed showing the location of poles and feeder pillar with HT/LT supply arrangement and any other accessories required. All the space allocations shall be clearly identified after due verification with the authorities.

5.1.5 The Report shall also include the following:

- (a) Situation the surveyed roads duly marked/tag in the google map/ other GPS system.
- (b) Number of existing poles in the road or particular site.
- (c) Capacity of the transformer/ feeding system available at the site for getting power enhancement from APDCL.
- (d) Summary of all the roads including road width with carriage way/ footpath/ drains; proposed wattage; height of poles; distance between the poles; calculated lux level, uniformity etc.
- (e) Data sheets of proposed Luminaire, Driver & Control-gear, Poles, Feeder Pillar, Controller, Battery, Communication module, Server etc.
- (f) Type tests reports for the offered LED Luminaries from Third Party NABL Accredited Laboratory as specified in Clause No. 7.4.3 of this Volume.

- (g) Details of Helpdesk set up and Complaint Management System.
- (h) O&M SOP.
- (i) Resource deployment.
- (j) Micro Project schedule on weekly basis.
- (k) Milestones for completion of implementation of lighting system in terms of road length (km).
- (l) Warranty management plan for the luminaries and other components.
- (m) Integrated management plan for the extended maintenance period with the commitment to adopt a Quick Response Mechanism.

5.1.6 Apart from the above, in case CONTRACTOR detects any other point of concern during the survey the same shall be indicated in detail in the report.

6.0 **TECHNICAL SPECIFICATIONS OF OCTAGONAL POLE** Deleted.

7.0 **TECHNICAL SPECIFICATIONS OF LED LUMINAIRE**

7.1 **Applicable Standards**

All applicable standards shall be as per Annexure 4.

7.2 **Environmental Conditions**

The average atmospheric condition during the year is mentioned below. The equipment shall be designed to work in such environmental conditions:

- (a) Maximum ambient air temperature: 45° C
- (b) Minimum ambient air temperature: 5° C
- (c) Max. Relative humidity: 90%
- (d) Atmosphere: Dusty and Humid
- (e) Rainfall data: 1600 mm
- (f) The equipment shall be suitable to sustain and work in the humid and dusty atmosphere of Guwahati.

7.3 **Luminaire Description**

7.3.1 The Luminaires shall work on single phase three wire system (phase, neutral & earth).

7.3.2 The luminaire light output (lumen) shall be constant and shall be able to withstand allowable

supply source voltage variations/ fluctuations, spikes and harmonics.

- 7.3.3 The Luminaries shall have a sturdy and corrosion resistant high pressure Die cast Aluminium alloy housing with weatherproof gasket, with separate Driver compartment and control gear accessories. The housing shall be Epoxy coated, without any cracks or thorough holes, made in a single piece of die-cast LM6 Aluminum alloy/ ADC 12. The luminaries shall be totally enclosed, dust tight and water proof with minimum ingress protection of IP 66 and above.
- 7.3.4 It should be easily replaceable in the field condition.
- 7.3.5 Heat sink used should be Aluminum extrusion/ Aluminum pressure die casting having high conductivity. The dimensions of luminaries shall be optimum and adequate to permit sufficient heat dissipation, through the body itself, so as to prevent abnormal temperature rise inside the lantern and consequential damage to the cover and gasket materials, LEDs, lenses and electronic drivers. Heat sink must be thermally connected to MCPCB/ LED light source.
- 7.3.6 The Luminaries Housing shall be suitable for termination of 3C X 1 sq mm copper conductor PVC insulated flexible Cable with Double Compression Weather proof Cable Glands if required.
- 7.3.7 The optical system shall consist of Poly Carbonate lenses on individual high power LEDs designed & tested to achieve typical street lighting distribution from the LED Luminaire. These lenses provided for individual LEDs are to be fixed on lens plate in order to have consistent light distribution from luminaries. Luminaries should conform to the Photometric Distribution / requirements of Cut-Off / Semi Cut — off light distribution and optics as classified in IS 1944 and NLC 2010.
- 7.3.8 Suitable number of LEDs shall be used in the luminaries. The manufacturer shall submit the proof of procurement of LEDs from OEMs at the time of testing along with the test reports.
- 7.3.9 The Luminaries shall be provided with distortion free, clear, high tensile, heat resistant, toughened glass of minimum 0.8mm thickness or UV resistant polycarbonate cover with required degree of protection. It is preferred that BIDDER offer Cover with Integrated individual lenses for LEDs fixed to housing providing required degree of protection. All hardware shall be corrosion free/ stainless Steel.
- 7.3.10 An extruded/ moulded silicon loop gasket shall be provided in the lantern body to ensure a weather proof seal between the cover and the metal housing to exclude the entry of dust, water, insects, etc. Luminaries should conform to degree of protection of IP 66 or above. Felt gasket will not be accepted.
- 7.3.11 Luminaire shall be enclosed in an aesthetically designed housing with corrosion resistant polyester powder Coating after phosphor-chromate treatment.
- 7.3.12 All Luminaires shall conform to RoHS and BIS requirements and Certifications. All the test reports from Third Party NABL accredited laboratory shall be submitted as required. Drivers used in the luminaires should be having individual BIS CRS number. BIS certificate shall be submitted along with the BID as compliance.
- 7.3.13 Name of the GUCL, Year of Manufacture, Batch No., Serial Number or Identification No.

Luminaire Manufacturer's Name / Logo, Wattage and Frequency and date of installation(to be kept blank and to be filled up on the date of installation by the contractor with UV resistant marker) shall be provided by Screen printing and Sticker in the external and internal of Housing of Luminaire respectively.

- 7.3.14 LED luminaries, should conform to the various National / International standards for safety & performance. Manufacturer should provide test reports as per LM 79 & LM80. The test reports shall be certified from UL/ILAC/ Third Party NABL accredited Laboratory (TPL) and shall be submitted along with the BID for LED Luminaires.
- 7.3.15 Luminaries should conform to the National / International standards for Safety & Performance and test certificates as per relevant standards shall be provided by the manufacturer. In case of luminaries are imported, the CONTRACTOR shall conform to test parameters as per UL or equivalent standards. However, Luminaire should be registered under BIS CRS for IS 10322 part 5 Sec 3 which covers all safety and protection criteria since it has been made compulsory by BIS. BIDDER shall submit the BIS registration number of Luminaires including the Driver or both if separately registered proposed for the project along with the BID.
- 7.3.16 The electrical component of the LED and LED driver must be suitably enclosed in separate sealed unit to function in environment conditions mentioned above.
- 7.3.17 All the connecting wires inside the Luminaries shall be Low Smoke Halogen Free, fire retardant cable or as per IS 10322 part 5 Sec 3 whichever is stringent.
- 7.3.18 Adequate protection against Overloading, Short Circuit, Over Voltage, Over temperature, Under Voltage, String Open, Surge Protection shall be provided within the Luminaries. Drivers shall have inbuilt protection system to operate safely, automatically isolate during abnormal conditions & restart as soon as the system normalizes. Third party Test certificates from NABL accredited Lab shall be submitted during execution of project for all the above. Drivers shall be capable of withstanding the voltage stress of 440V. Test certificates shall be submitted to justify the same.
- 7.3.19 Design of the thermal management shall be done in such a way that it shall not affect the properties of the diffuser.
- 7.3.20 All the material used in the luminaries shall not contain any toxic material/ metal like mercury; shall be halogen free and fire retardant conforming to relevant standards.
- 7.3.21 The Manufacturer shall have NABL accredited testing facilities or shall be associated for this project with any third party NABL accredited laboratory to avail its services for all type of tests including Routine tests, Acceptance tests and Type test. The luminaires shall be offered for inspection to the GUCL for verification of the required parameters and tests. CONTRACTOR shall confirm the same in the BID.
- 7.3.22 The control gear shall comply with the provisions of IEC 61347-2-13:2014, IEC 62031:2018 and IEC 62384:2006 as appropriate or equivalent BIS standards IS 15885 Part-2 Section 13. BIS certificate shall be submitted along with the BID.
- 7.3.23 The switching surges are expected in the power supply system. Appropriate surge protection shall be provided by the CONTRACTOR for all the Luminaires offered. Such protections can

either be provided centrally at the Feeder Pillar or at each individual luminaire level or a combination of both, as may be decided by the CONTRACTOR. No claim for failure of Luminaires, on account of surges will be considered.

- 7.3.24 Additionally, as per ANSI C 136.2-2014/ UL-1449, External Surge protection device (SPD) with Thermal Protection (TMOVs) of minimum 10 kV/ 10 kA to be separately installed with each fixture while an additional surge arrestor of 20kV/10kA shall be installed inside Feeder Pillar / field panel. The same shall be certified from independent lab and follow IEC 62305:2010& IEC 61643-11-2011.No claim for failure of Luminaires, on account of voltage surges other than Lightning surges, will be considered.
- 7.3.25 In case of voltage surges due to lightning, it is expected that lights, in the affected circuit, will fail in a group and not in an isolated manner. Hence, any such failure of lights in a group on account of Lightning surges, may be reported to the GUCL, along with circumstantial evidence preferably within 48 hours of such occurrence. The responsibility for submission of supporting documentation rests with the CONTRACTOR.
- 7.3.26 The Luminaires shall be suitable for operation within the input supply voltage range specified. The driver of the light should be able to sense and cut-off power to the light in case of phase-to-phase/ 440 V fault. No claim in this regard shall be considered.
- 7.3.27 The lighting fixtures offered shall comply with the data sheet attached in Annexure 1.
- 7.3.28 The driver/ control gear offered shall comply with the data sheet attached in Annexure 2.
- 7.3.29 The complete luminaire assembly including all the components shall have a warranty period of 3 years.
- 7.3.30 Protection against any type of mischief / pilferage should be ensured.

#### **7.4 Testing Of Luminaire**

- 7.4.1 The Routine test on each of the offered Luminaries shall be carried out by the CONTRACTOR before dispatch. Following tests shall be carried out as Routine tests by the CONTRACTOR for the offered Luminaries;
  - (a) Visual and Dimensional check
  - (b) Checking of documents of purchase of LED
  - (c) Insulation resistance test
  - (d) HV test
  - (e) Reverse polarity
- 7.4.2 The Acceptance test shall be carried out by GUCL or GUCL's Representative on a sample of the lot offered for Acceptance. The Lot shall be different from the lot from which the Type test samples have been drawn. The cost of the testing shall be borne by the CONTRACTOR. Following tests shall be carried out as Acceptance tests by the CONTRACTOR for the offered

Luminaries;

- (a) Visual and Dimensional check
- (b) Checking of documents of purchase of LED
- (c) Insulation resistance test
- (d) HV test
- (e) Over voltage protection
- (f) Surge protection
- (g) Reverse polarity
- (h) Test for IP 66 protection

7.4.3 Following Type tests reports shall be provided by the CONTRACTOR for the offered Luminaries from Third Party NABL Accredited Laboratory;

- (a) Resistance to humidity, Dust and Moisture
- (b) Insulation resistance test/ electrical strength
- (c) HV test
- (d) Over voltage protection
- (e) Surge protection
- (f) Reverse polarity
- (g) Temperature rise Test
- (h) Colour Rendering Index measurement test
- (i) Heat resistant test
- (j) Fire retardant Test (Including Wiring)
- (k) Test for IP 66 protection
- (l) Test report confirming to Impact resistance
- (m) Endurance Test
- (n) Life Test
- (o) Photometric Measurements Test Report (IES LM 79)

- (p) LED Lumen Maintenance Test Report (IES LM 80) (As provided by LED manufacturer)
- (q) Vibration test as per ANSI
- (r) Drop Test

#### **8.0** TECHNICAL SPECIFICATION OF STREETLIGHT FEEDER PILLAR- SWITCHING POINT

This specification will be governed by the latest BIS Code of practice in conjunction with the recommendation of APDCL.

**9.0** Deleted.

#### **10.0** CABLE AND CABLE TERMINATION

This specification will be governed by the latest BIS Code of practice in conjunction with the recommendation of APDL.

#### **11.0** OPERATION & MAINTENANCE

- 11.1** O&M shall be initiated after completion of installation and commissioning of street lighting system on all the specified roads and issue of completion certificate by GUCL after due inspection and testing. This will in two phases. Phase-I will start from the date of completion for 365 days as Defect Liability Period .
- 11.2** CONTRACTOR shall install a Help Desk minimum 30 days in advance before the initiation of the O&M period.
- 11.3** The CONTRACTOR shall be responsible for up-keeping/maintaining/ repair/ replacement, comprehensively, of all the Luminaires, Controllers, Poles, Switching pointcontroller panels, cable and earthing-systems covered under this contract.
- 11.4** During the Contract period, if any hardware or software needs to be replaced, the same will be replaced with same or better OEM and with same or higher configuration free of cost.
- 11.5** The manpower and accessories required for O&M of Bye-lane shall be provided by CONTRACTOR during relevant contract period. CONTRACTOR shall maintain a serviceteam/s with vehicle/ s to address the complaints/ accidents on SOS basis and act immediately. For Bye-lane minimum Two Service team shall be provided consisting of a gang of one I.T.I./PWD/Second class wireman/electrician and one wireman helper along with two rigours. One certified electrical supervisor shall be maintained to supervise the gangs of Bye-lane. One manager shall be maintained to observe the activities and report to the concerned dept. Two drivers with two Tower vehicles shall be maintained. One pickup truck shall be

maintained. Such an arrangement shall be provided at the beginning of the contract and only the staff shall be augmented if found insufficient during the course of the contract.

CONTRACTOR shall maintain at least onewireman along with one helper to attain emergency work round the clock. The Vehicle shall be self-sufficient with all the required tools and instruments, duly calibrated, to meetthe maintenance requirements as per service benchmark.

- 11.6** CONTRACTOR shall keep adequate provision of standby team — either its own or on contract- for attending to cable faults. During rectification of cable fault if excavation of road / median / foot path, paver blocks etc. is required then the same shall be carried out by the CONTRACTOR after getting approval from GUCL.
- 11.7** The payment terms for the O&M shall be as agreed in the Contract for the entire tenure.
- 11.8** GUCL through APDCL shall ensure availability of power. Electricity charges and Connectivity charges shall be paid by GUCL to the APDCL.
- 11.9** The Non -availability of incoming power supply from APDCL shall be intimated by CONTRACTOR within an hour. CONTRACTOR shall coordinate with APDCL on behalf of GUCL and GUCL shall facilitate as and when required to expedite the response from APDCL.
- 11.10** Availability of communication network through the selected mode shall be ensured by the CONTRACTOR for data and SMSs. The CONTRACTOR shall bear the cost of connectivity of all such network charges and pay monthly/ annually as the case may be to the telecom/ service provider. The downtime of the communication network shall be considered within the system Service Availability Benchmark.
- 11.11** Any complaint for failure of luminaire due to lack of earthing, SPD, connector and loose connections shall be to CONTRACTOR's Account.
- 11.12** Deleted.
- 11.13** The CONTRACTOR shall take adequate insurance to cover themselves for the cost of O&M during the tenure of the contract including the ones due to theft.
- 11.14** All the electrical parameters and luminance level of all the roads shall be monitored with calibrated Power Analyzer and Lux meter and documented for records and analysis at regular interval as decided by authorities during O & M.
- 11.15** All the necessary modifications that are required to be carried out for the efficient working of the system including network and Luminaires and minimize the breakdowns and issues shall be carried out by CONTRACTOR from time to time at its own cost.
- 11.16** Deleted
- 11.17** All the responsibilities related to replacement of LED lamps / cables / other accessories covered in this contract shall be borne by CONTRACTOR in respect of cost, managing the technical problems and other related aspect during the tenure of the project.
- 11.18** The maintenance work will be carried out without disturbing the street traffic and with proper work permit.
- 11.19** Helpdesk Setup
- 11.19.1** The CONTRACTOR shall set up a centralized helpdesk to address the O&M for the project for entire Contract period with the following;



- (a) A Toll Free Number exclusively for the Street lighting for Lanes and byelanes shall be finalized in consultation with the GUCL. Language Capabilities : Assamese, Hindi and English;
- (b) The help desk shall operate 24X7 to assist and guide the users.
- (c) The help desk will handle user queries and issues relating to implemented solution.
- (d) The helpdesk shall ensure that users can log calls and complaints for any technical issues they face while accessing the system.
- (e) A Standard Operating Procedures (SOP) for O&M process shall be created by the CONTRACTOR from logging of request to closure of the request. The SOP shall address call prioritization guidelines, problem security codes and escalation procedures etc. in consultation with GUCL;
- (f) It shall be also possible to log requests by user through other channels like email and sms.
- (g) All the complaints and work carried out by the CONTRACTOR shall be recorded and submitted to GUCL on monthly basis.
- (h) CONTRACTOR shall allocate Serial No to the Pole- Lamp combination and maintain records of each one of them during the Contract period.
- (i) A Report containing the operational Status of each light pole, complaints received and resolved; Preventive maintenance schedule and status, Stock of spares, man power update, etc shall be submitted to the GUCL on a weekly basis.

#### **11.20 COMPLAINT MANAGEMENT SYSTEM**

During the entire Defect liability period and extended maintenance period of 2 (Two) years, the contractor/supplier will maintain a structured complaint management system for receiving complaint and redressal of the same. The contractor/supplier will provide a dedicated communication channel through phone, email and other media platform to receive communication both from the employer and public. A monthly report of the complaints received and actions taken is to be submitted by the contractor/supplier to the employer.

#### **11.21 Service Level Benchmark**

- (a) All the complaints shall be redressed within next 48 hrs. In case the service provider fails to comply with the same a penalty of Rs. 500/- per day per complaint shall be imposed for a period of 7 days after which the amount will be doubled for the next subsequent days till the complaint is resolved to the satisfaction of the owner.
- (b) At any given time the CONTRACTOR shall maintain spares equivalent to minimum 1% of the total number of lights installed. Failing to maintain spares and causing delay in resolution of the complaint shall be penalized as indicated above.
- (c) Cleaning of the luminaire cover shall be taken up once half yearly and record shall

be maintained and reported to GUCL.

- (d) In case CONTRACTOR fail to make provision or fail to abide by the Safety Procedures as per Statute/ Best engineering practices, a penalty of Rs. 2000/- for every such incidence for first three incidences shall be charged. After which the amount will be doubled for the next subsequent three occurrences. Beyond which GUCL may consider suitable measures including termination of involved team members or even the contract.
- (e) In Theft cases, if the CONTRACTOR fails to create new assets which are damaged by theft or any other reason, and Services are affected, then the penalties will be levied as per Penalty Clause for not meeting the desired level of Service Level.

## **12.0 QUALITY CONTROL PLANS**

- 12.1** The Quality Control Plan shall list and define in sequential order all process control activities, inspection and tests proposed to be performed on the equipment/ material starting from component procurement and from testing stages to product dispatch. The Quality Control Plan shall indicate and identify the applicable standards, detailed description with diagram the procedure, acceptance criteria, extent of check and record to be generated.
- 12.2** The CONTRACTOR shall within Fifteen (15) days of placement of order submit the following information to the GUCL.
  - (a) Descriptive list of the raw material as well as bought out accessories and the names of sub suppliers selected from those furnished along with the Specification.
  - (b) Type test certificates of the raw material and bought out accessories.
  - (c) Quality Assurance Plan (QAP) with holds points for GUCL'S inspection. The QAP and hold points shall be discussed between the GUCL and the CONTRACTOR before the QAP is finalized.

## **13.0 INSPECTION**

- 13.1** The inspection may be carried out by the GUCL or his representative at any stage of manufacturing. The successful CONTRACTOR shall grant free access to the GUCL/ its representative/s at a reasonable notice when the work is in progress. Inspection and acceptance of any equipment under this specification by the GUCL shall not relieve the CONTRACTOR of his obligation of furnishing equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment is found to be defective.
- 13.2** The CONTRACTOR shall keep the GUCL informed in advance regarding the time of starting and progress of manufacture of all the equipment in its various stages so that arrangements could be made for stage inspection, if desired by GUCL.
- 13.3** No material shall be dispatched from its point of manufacture unless the material has been satisfactorily inspected and tested and approved by GUCL or an inspection waiver is given.
- 13.4** CONTRACTOR shall, during inspection/ at any stage as sought by GUCL, will furnish test

certificates for all equipment including bought out items as included in this BID. However, the GUCL reserves the right to insist for witnessing the acceptance/routine testing of bought out items.

- 13.5** The CONTRACTOR shall communicate to the GUCL the details of all testing programme at least Three (3) weeks in advance. GUCL reserves the right to waive the inspection at any stage.
- 13.6** CONTRACTOR shall keep all his testing instruments duly calibrated against Standard Meters at designated Accredited Laboratory not earlier than 6 months from the date of test of the equipment, covered under this specification. Calibration certificates shall be made available during inspection. The calibrating instruments used as standard shall be traceable to National/ International standards.
- 13.7** A joint inspection of GUCL Authority; Technical Officer, Project Manager and team of CONTRACTOR shall be carried out before commencing for operation.
- 13.8** Following Field Test shall be carried out on the system
  - (a) Visual Inspection of quality of work,
  - (b) Insulation resistance of the system including cable
  - (c) Lux level available with and without the other façade and vehicular lights. The lux level shall be tested in accordance with NLC.
  - (d) Earth resistance of each electrode and feeder pillar

**14.0 CAPACITY BUILDING**

- 14.1** The CONTRACTOR needs to provide training to GUCL employees and other stakeholders as directed by GUCL for capacity building;
- 14.2** The CONTRACTOR shall prepare all the requisite audio/visual training aids that are required for successful completion of the training for all stakeholders. These include the following for all the stakeholders:
  - (a) Training manuals for GUCL employees / stakeholder departments;
  - (b) Computer based training modules;
  - (c) Presentations;
  - (d) User manuals;
  - (e) Operational and maintenance manuals for Smart Components implemented;
  - (f) Regular updates to the training aids prepared under this project.
- 14.3** The CONTRACTOR shall maintain a copy of all the training material on the portal and the access will be provided to relevant stakeholders depending on their need and role. The access to training on the portal would be finalized with GUCL. CONTRACTOR has to ensure

the following points:

- 14.3.1 For each training session, the CONTRACTOR has to provide the relevant training- material copies to all the attendees.
- 14.3.2 The contents developed shall be the property of GUCL with all rights.
- 14.4 The CONTRACTOR has to ensure that the training sessions held are effective and that the attendees would be able to carry on with their work efficiently. For this purpose, it is necessary that the effectiveness of training sessions is measured. The CONTRACTOR will prepare a comprehensive feedback form that will capture necessary parameters on measuring effectiveness of the training sessions. This form will be discussed and finalized with GUCL.
- 14.5 After each training session, feedback will be sought from each of the attendees on either printed feedback forms or through a link available on the web portal. One member of the stakeholder group would be involved in the feedback process and he/she has to vet the feedback process. The feedback received would be reported to GUCL for each training session.

#### **15.0 HAND-OVER OF THE SYSTEM DURING EXIT PERIOD**

- 15.1 The CONTRACTOR shall hand over to the GUCL the following before the expiry of the contract or in the case of termination of Contract by GUCL with Justifiable reason as specified elsewhere in the RFP:
  - (a) A complete list of Hard and Soft Assets with its records over the past period.
  - (b) All the assets in good working condition as per tech specification or its upgraded version. In case any asset is not in working condition, CONTRACTOR shall ensure that the same is made good as per required standard and performance and handed over within the Exit period.
  - (c) All software along with the confidential information related to it like user name and passwords and hardware keys if any. It shall also hand over all the rate contract if any signed with the software company for continuity of services.
  - (d) Information relating to the current services rendered and technology and technical data relating to the performance of the services; Entire documentation relating to various components of the Project, any other data and confidential information related to the Project;
  - (e) All other information (including but not limited to documents, records and agreements) relating to the products & services related to the project to enable GUCL and its nominated agencies, or its replacing CONTRACTOR to carry out due diligence in order to transition the provision of the Project Services to GUCL or its nominated agencies, or its replacing CONTRACTOR (as the case may be).
- 15.1.2 The duration of 60 working days after completion of the contract period shall be considered as Handover/ Exit period during which CONTRACTOR shall give full access to its premises,

records, data base and assets related to this project.

- 15.1.3 All the information as indicated above which is handed over to GUCL should not be copied, sold or reused by CONTRACTOR under any circumstances without any written approval from GUCL.
- 15.1.4 In case this handover happens within DL period, the CONTRACTOR shall ensure that the technology provider shall continue to support the assets and systems till the end of the DL Period.
- 15.1.5 The CONTRACTOR shall not retain any data, security codes, and other confidential documents including any type of customer survey data with them.
- 15.1.6 During the Exit period CONTRACTOR shall not reduce any manpower or replace any Manpower wilfully as available on the day of issue of Notice. In case the CONTRACTOR reduce the manpower then GUCL shall charge Rs. 1000/- Per personper day as penalty for the remaining duration of the Exit period.

#### **16.0 PRE-COMMISSIONING TESTS TO BE CONDUCTED AFTER INSTALLATION**

##### **16.1 ON-SITE TESTING:**

During the whole period including the defect liability period and two years maintenance period, the contractor/ supplier will have to arrange and facilitate any testing in field which the employer decides to conduct on quality and performance of the materials and systems covered in this project.

#### **17.0 DOCUMENTS REQUIRED TO BE SUBMITTED BY CONTRACTOR DURING TECHNICAL BID**

- (a) Summary statement of Road, Height of pole, Mounting-arrangement, Wattage of LED Luminaire offered.
- (b) MoU with one or more Luminaire and Lighting Management System OEMs, whose products are being offered by the BIDDER for the project.
- (c) Guaranteed Energy consumption for each Luminaire and its system including the losses. Tabulated list of Guaranteed Energy consumption per Road as well as Total Energy Consumption for the offered system.
- (d) Following Type tests reports shall be provided by the BIDDER for the offered Luminaries from Third Party NABL Accredited Laboratory;
  - (i) IES-LM-79 Reports from Third Party NABL Accredited Laboratory
  - (ii) IES-LM-80 Report for LED Chip
- (e) BIS/CRS Registration Certificate for LED Luminaire and Driver/ Control-gear as per IS 10322 Part-5 Sec and IS 15885 Part-2 Section 13.
- (f) Technical Write up on Lighting Management system/ software and its technical details including features, architecture, performance, security, programming,

administration, user hierarchy, MIS and report generation, License etc.

- (g) Technical Write up on Method of communications, proposed system for data transfer/ storage/ uploading/ downloading/ archiving/ access from the local in-house server or cloud based server, Range & maximum capacity of gateways, response time etc.
- (h) Write up on proposed Data storage system in cloud or otherwise including its capacity, ownership, integration with other command centers, its components, it's technical configurations.
- (i) Write up on Approach Methodology for carrying out the Project implementation, Project Management & Schedule and Operation & Maintenance of the entire project during the contract period including;
  - (i) Preliminary reconnaissance Survey carried out before bidding,
  - (ii) Survey methodology for the Bye-lane after award of Contract
  - (iii) Execution methodology proposed for various roads
  - (iv) Project schedule & deployment of resources to comply with the same
  - (v) Operation and Maintenance Methodology of the project during the contract period including deployment of resources; compliance to the Service Benchmarks; Deployment of Service teams and deployment of special tools to expedite implementation and reduce downtime during breakdown; Predictive/ preventive maintenance
  - (vi) Call Center set up & its operations
  - (vii) O&M Schedule
  - (viii) Training and documentation, handing over procedure
- (j) Earthing and Surge suppression solutions offered.
- (k) Details of the Complaint Management System Offered.
- (l) Sustainability of the System offered.
- (m) Makes of component and systems offered.
- (n) Exit management plan.

## **18.0 DOCUMENTS REQUIRED TO BE SUBMITTED BY SUCCESSFUL CONTRACTOR**

18.1.1 Detailed Field Survey Report along with findings with maps.

18.1.2 Detailed Survey report with proposed solution as found in the Site Survey including the following;

- (a) Road details — Total RoW width, Width of carriage way/ foot path/ drains, road length etc.
- (b) Design calculations for each road.
- (c) Summary of Road, road width as above, Design lux, Pole height, calculated lux level, uniformity ratio, threshold (TI), no. of FP, Luminaire wattage,
- (d) Guaranteed Energy consumption for each FP/ road including the losses.
- (e) Identified source of power, single line diagram and space provisions for Switching points for each road.
- (f) Location drawings for poles, Switching points and cable laying corridor.
- (g) Offered systems, components, their technical data sheets and type test reports;
- (h) System Architecture drawing.
- (i) Details regarding Cloud Server and Lighting management Software- compatibility for integration with Command Control Centre.
- (j) Communication Protocol- FP to server, FP to fixture etc.
- (k) O&M SOP — Procedure, description of works to be carried out, Regular Inspection Plan, regular Quality Control Plan, regular maintenance plan for Predictive& Preventive maintenance.
- (l) Office / Storage space General arrangement layout.
- (m) Resource Deployment plan for manpower and tools.
- (n) Details of Call centre & Complaint management system — system and component technical details.
- (o) Organisation structure and team CVs.
- (p) Detailed execution micro schedule to meet the target dates with milestones & deadlines — Order of roads for installation.
- (q) BOQ & Makes offered.
- (r) Technical details regarding the product offered including the following;
  - (i) Details of the LED chip offered, technical data sheet, Type test report,
  - (ii) Details of LED Luminaire, technical Data sheet of the offered ratings, Type test reports.
  - (iii) BIS/CRS Registration Certificate for IS 15885 (Part 2 Sec 13)

and IS 10322 (Part 5 Sec 3) for Driver/ Control gear and Luminaire

- (iv) Driver test report for all dimming stages. (v) Guarantee/ warranty offered.
- (s) Data sheet of all the Luminaires, drivers & Controllers offered along with their respective type test reports as specified above. IES files of the Luminaires offered shall also be submitted.
- (t) Driver/ Control gear Data sheet (As per Annexure-8) and Third party NABL accredited Lab type test reports of the driver as follows;
  - (i) Over voltage protection
  - (ii) Open circuit protection
  - (iii) Short circuit protection
  - (iv) Surge protection
  - (v) Over temperature protection
- (u) LED Luminaire Data sheet (As per Annexure-7) and Third party NABL accredited Lab Type test reports of the Luminaire as follows;
  - (i) Resistance to humidity, Dust and Moisture
  - (ii) Insulation resistance test/ electrical strength
  - (iii) HV test
  - (iv) Over voltage protection
  - (v) Surge protection
  - (vi) Reverse polarity
  - (vii) Temperature rise Test
  - (viii) Colour Rendering Index measurement
  - (ix) Heat resistant test
  - (x) Fire retardant Test (Including Wiring)
  - (xi) Test for IP 66 protection
  - (xii) Test report confirming to Impact resistance
  - (xiii) Endurance Test
  - (xiv) Life Test
  - (xv) Photometric Measurements Test Report (IES LM 79)
  - (xvi) LED Lumen Maintenance Test Report (IES LM 80) (As provided by LED manufacturer)
  - (xvii) Vibration test as per



## ANSI (xviii) Drop Test

- 18.1.3 Mock up with installation and commissioning of minimum 3 nos. of Street light pole and LED luminaire to confirm the offered lighting design is as per requirement for each type of road. Clearance for the completion of street lighting system for entire length of each type of the road will be given upon the successful achievement of desired Lux level.
  - 18.1.4 Execution drawing with coordinates of each pole and Switching point for each road
  - 18.1.5 Civil foundation drawings with Calculations for each height of pole
  - 18.1.6 Equipment Manuals: Original Manuals from OEMs
  - 18.1.7 Installation Manual: For all the application systems
  - 18.1.8 User Manuals: For all the application software modules, required for operationalization of the system.
  - 18.1.9 System Manual: For all the application software modules, covering detail information required for its administration.
  - 18.1.10 Control schematic diagram and interconnection diagrams for switching points.
  - 18.1.11 Test reports of bought out components.
  - 18.1.12 Inspection reports of the components, luminaires and system.
  - 18.1.13 All drawings shall carry GUCL's name, purchase order no. with date, project title, consulting engineer's name and adequate space for drawing approval.
  - 18.1.14 Training Material: Training Material will include the presentations used for trainings and also the required relevant documents for the topics being covered. Training registers should be submitted for same.
  - 18.1.15 Standard Operational Procedure (SOP) Manuals: The draft process (SOP) document for O&M and all other services shall be formally signed off by GUCL before completion of Final Acceptance Test. This SOP manual will be finalized by the CONTRACTOR within 2 months of operationalization, in consultation with the GUCL and formally signed off by the GUCL.
  - 18.1.16 The CONTRACTOR shall ensure upkeep & update all documentation and manuals during the Contract period. The ownership of all documents, supplied by the CONTRACTOR, will be with GUCL. Documents shall be submitted in two copies each in printed (duly hard bound) & in softcopy formats.
- 19.0 APPROVED MAKES**

**TABLE NO: 4– Approved Make**

Sr.No	Description	Approved Make
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1.	GI Octagonal Lighting Pole	Bajaj/ Philips/ Keslec/ Valmont/ Jindal Power/ Aster/ Transrail Ltd/Utkarsh/ Nezoneor APWD approved make, but final decision on selection of make will be at the discretion of GUCL.
2.	LED Chip	Cree, Osram, Nichia, Philips Lumileds
3.	Lighting Fixtures	Philips (Signify)/ Wipro/ Bajaj/ Havells/Lighting Technology/ Crompton/ Keslec/ APWD/ GUCL approved make or Equivalent brand of repute which have been used in other Smart City / City Lighting Projects or any other makes of repute and meeting all specifications as stipulated in the Bid Document will also be considered, but final decision on selection of make will be at the discretion of GUCL.
4.	Cable	As per APWD Approved make list
5.	Cable Termination Kit/ Cable Joining Kit	Raychem / 3M
6.	Gland/Lugs	As per APWD/GUCL Approved make list or Dowells, Commet, Connect well
7.	Earthing Material	As per APWD/GUCL Approved make list
8.	MCCB , MCB, RCCB, RCBO and other Switchgears	Schneider, Siemens, ABB. L&T, MDS, Hager, Havells, Legrand
9.	Time Switch	L&T GIC, Siemens, Schneider, Legrand, Hager, ABB, Havells
10.	Energy meter, MFM	Schneider, Siemens, ABB, L&T
11.	Contactor and other switchgears	L&T, Siemens, Schneider, ABB

12.	HDPE/ DWC Pipe	Rex, Gemini, Duraline, Alcorr, Nobel Polytec or APWD/ CPWD Approved
13.	GI Pipe	Tata, Asian, CTC, Jindal, Zenith, Apollo, GST, Nezone

**Note- The APWD/GUCL approved make list shall be latest as issued by concerned Authority.**

## 20.0 ANNEXURE 1

**TABLE NO. 5 - LUMINAIRE DATA SHEET**

Sr. No.	Parameters	Requirements / Value
1.	Type	LED Luminaries complete with all accessories including driver, internal wiring and protections
2.	LED chip make	Nichia, Philip Lumiled, Osram, CREE
3.	Rated Voltage	230-240V
4.	Operating Voltage Range	Single phase 200–280 Volt AC. But luminaries shall be tested for 100V to 300 V AC
5.	Frequency	50 Hz +/- 3%
6.	Power Factor	> 0.95
7.	LED wattage	>30 Watt & <150 Watt depending upon the road dimension
8.	LED chip Efficacy	>135 Lm/Watt system lumen output at 25 degree C, supported by LM80 report, to be submitted.
9.	LED Drive current	>=350 mA <750 mA
10.	LED Beam Angle	CONTRACTOR to decide ( based upon the dimensions of the road)

11.	Color Temperature	≥5500K and within ± of tolerance limit as per relevant standards
12.	Rated Minimum LED Life(L70)	50000 Burning Hours <b>(With only 30% Lumen Degradation or 70% Lumen maintenance)</b>

13.	System efficacy	≥ 110 Lm/Watt
14.	Total Lumen Output	CONTRACTOR to offer
15.	Color Rendering Index of Luminaires	>70
16.	System Power Efficiency	≥ 90%
17.	Driver Type	Constant Current based Electronic Driver
18.	Driver Efficiency	> 90% for luminaire wattage > 75W and > 85% for luminaire wattage ≤ 75 W
19.	Driver Life	<b>Same as LED Luminaire Life.</b>
20.	Maximum temperature rise for Driver	<30 Deg C at 45 Deg C ambient

21.	Operating Temperature Range	-10 Deg C to + 50 Deg C
22.	Luminaries body temperature after 12 hours of continuous operation	$\leq 30$ Deg C from ambient
23.	Junction temperature	< 85 Deg C - self certified by Manufacturer
24.	Heat Sink Temperature	$\leq 75$ Deg C from ambient
25.	Solder point temperature	<78 Deg C

26.	Operating Humidity	10% to 95% RH
27.	Operating Hours	Dusk to Dawn (max 12 Hrs.)
28.	Total Harmonics Distortion(THD)	<10%
29.	Construction	High power LED must be mounted on Copper MCPCB for high thermal conductivity and fastest heat transfer from the LED junction
30.	IP Protection	IP66 or more; no water stagnation anywhere
31.	Luminary Housing	<p>Pressure Die Cast Aluminum (grade 5000 or similar) housing with corrosion resistant polyester powder coating &amp; safety as per IEC 60598:2014 and 2017 / IS 10322, 1982 (Reaffirmed 2005).</p> <p>Mounting bracket with aiming &amp; locking facilities.</p> <p>Large surface area with fins to dissipate the heat to ambient air</p>
32.	Heat Sink	Well-designed thermal management system with defined heat sink

33.	Clip / Fasteners	Corrosion free/ Stainless steel.
34.	Wire	The connecting wires used inside the luminaries, shall be Low Smoke Halogen Free, fire retardant e-beam cable or as per IS 10322 part 5 sec 3 which ever is stringent shall be provided in input side.
35.	Materials	As per relevant standard and specifications whichever is stringent
36.	Optics	As specified in the Specifications.
37.	IK protection for Optic Cover	≥IK07
38.	Photometric measurements	LM-79/IS16105, 2012.
39.	Minimum in-built SurgeProtection; Min Surge protection required for luminaires	4 kV; 10kV/10 kA
40.	Min Surge protection at Feeder Pillar	20kV/10Ka

## 21.0 ANNEXURE 2

**TABLE NO. 6–DRIVER/ CONTROL GEAR DATA SHEET**

Sr. No.	Parameters	Requirements / Value
1.	Type	Constant Current based Electronic Driver (Dimmable and Non-dimmable, inbuilt in Luminaire housing)
2.	Driver Efficiency	> 90% for luminaire wattage > 75W and > 85% for luminaire wattage ≤ 75 W
3.	Driver Life	<b>Minimum 50000 Hours or Same as LED Luminaire Life.</b>
4.	Operating Voltage Range	100V to 300 V AC
5.	Frequency	50 Hz +/- 3%
6.	Power Factor	> 0.95
7.	Total Harmonic Distortion (THD)	<10%
8.	Protection Class	Class I
9.	Operating Temperature Range	-10 Deg C to + 50 Deg C
10.	Minimum in-built Surge Protection	4 Kv
11.	IP Protection	IP65 or more

12.	Output Current Range	<750 Ma
13.	Output Voltage Range	40 V DC – 215 V DC
14.	Output Power	< 150 W
15.	Short Circuit Protection	Yes; Constant current limit mode.
16.	Open Circuit Protection	Yes
17.	Over Voltage Protection	Yes; Auto Isolation
18.	Over Temperature Protection	Yes; Auto Shut Off.
19.	Under Voltage Protection	Yes
20.	EMI Compliant	Yes



## 22.0 ANNEXURE 3

**TABLE NO. 7- MINIMUM REQUIREMENTS OF THE GI POLES**

HEIGHT	TOP DIA (A/F)	BOTTOM DIA (A/F)	SHEET THICKNESS	BASE PLATE DIMENSIONS (LxBxT)	FOUNDATION BOLT			
					BOLT SIZE (NO. x DIA)	PITCH CIRCLEDIA (PCD)	BOLT LENGTH (MM)	PROJECTED BOLT LENGTH
(mtr)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
5	70	130	3	200 x 200 x 12	4 x 16 Dia	200	600	80
6	70	130	3	220 x 220 x 12	4 x 20 Dia	205	600	100
7	70	130	3	220 x 220 x 12	4 x 20 Dia	205	750	100
8	70	135	3	225 x 225 x 16	4 x 20 Dia	210	750	100
9	70	155	3	260 x 260 x 16	4 x 24 Dia	250	750	125
10	70	175	4	275 x 275 x 16	4 x 24 Dia	270	750	125
11	90	210	4	300 x 300 x 20	4 x 24 Dia	300	750	125
12	90	240	4	320 x 320 x 20	4 x 24 Dia	325	850	125
14	90	240	4	As per manufacturer Recommendations				

## 23.0 ANNEXURE 4

**TABLE 8: LIST OF STANDARDS FOR LED LUMINAIRES**

<b><u>S. No.</u></b>	<b><u>Brief Title</u></b>	<b><u>IS/IEC Code</u></b>
1.	Testing procedure of photometric testing for LED Luminaires	LM 79
2.	Testing procedure on the lifespan of LED Luminaires	LM 80
3.	National Lighting Code	NLC 2010
4.	Method of Measurement of Lumen Maintenance of SolidState Light (LED) Sources	IS:16105 – based on IES-LM-80-2008
5.	Method of Electrical and Photometric Measurements of Solid-State Lighting (LED) Products	IS:16106 – based on IES-LM-79-2008
6.	Limits of Harmonic Current Emissions	IS 14700-3-2
7.	DC or AC supplied electronic control gear for LED modules - Performance requirements	IEC 62384
8.	Lamp control gear: Particular requirements for DC or AC supplied electronic control gear for LED modules	IEC 61347-2-13
9.	Environmental Testing: Tests – Test Db: Damp heat, Cyclic (12h+12h cycle)	IEC 60068-2-38
10.	Electro Magnetic compatibility (EMC)- Limits for Harmonic current emission— (equipment input current $\leq 16$ A per phase)	IEC 61000-3-2
11.	Equipment for general lighting purposes - EMC Immunity requirements	IEC 61547
12.	LED Modules for General Lighting-Safety Specifications	IEC 62031
13.	Degrees of Protection provided by enclosures (IP Code)	IEC 60529

14.	Particular Requirements - Fixed general purposeLuminaires/ Specification for Luminaires	IEC 60598-2-1/ IS10322
15.	General Lighting - LEDs and LED modules – Terms and Definitions/ General lighting – Light emitting diode (LED) products and related equipment –Terms and definitions	IS:16101 / IEC TS 62504
16.	LED Modules for General Lighting - Safety Requirements	IS:16103(Part1)
17.	LED Modules for General Lighting - Performance Requirements	IS:16103(Part2)
18.	Safety of Lamp Control Gear - Particular Requirements of D.C. or A.C. Supplied Electronic Control gear for LedModules	IS:15885(Part2/ Sec13)

24.0 ANNEXURE 5

26.0 ANNEXURE 7

**TABLE NO: 11 – LUMINARIES DATASHEET TO BE FILLED BY SUCCESSFUL  
CONTRACTOR**

Sr. No.	Parameters	Requirements / Value
1.	Type	
2.	LED chip make	
3.	Rated Voltage	
4.	Operating Voltage Range;Test report enclosed (Y/N)	
5.	Frequency	
6.	Power Factor; Test report enclosed (Y/N)	

7.	LED wattage; Test report enclosed (Y/N)	
8.	LED chip Efficacy; Test report enclosed (Y/N)	
9.	LED Drive current; Test report enclosed (Y/N)	
10.	LED Beam Angle	
11.	Colour Temperature	
12.	Rated Minimum LED Life (L70); Test report enclosed	

	(Y/N)	
13.	Total Lumen Output; Test report enclosed (Y/N)	
14.	System Efficacy; Test report enclosed (Y/N)	
15.	Colour Rendering Index of Luminaires; Test report enclosed (Y/N)	
16.	System Power Efficiency; Test report enclosed (Y/N)	
17.	Driver Type	
18.	Driver Efficiency; Test report enclosed (Y/N)	
19.	Driver Life; Test report enclosed (Y/N)	
20.	Maximum temperature rise of Driver; Test report enclosed (Y/N)	
21.	Operating Temperature Range of LED & Driver; Test report enclosed (Y/N)	
22.	Luminaires body temperature after 12 hours of continuous operation; Test report enclosed (Y/N)	
23.	Junction temperature; Test	

	report enclosed (Y/N)	
24.	Heat Sink Temperature; Testreport enclosed (Y/N)	
25.	Solder point temperature; Test report enclosed (Y/N)	
26.	Operating Humidity	
27.	Control Gear	
28.	Whether NEMA Socket is provided	
29.	Whether Controller is provided in Luminaire	
30.	Total Harmonics Distortion (THD); Test report enclosed(Y/N)	
31.	LED Construction	
32.	IP Protection of Luminaire & controller; Test report enclosed (Y/N)	
33.	Luminary Housing Construction	
34.	Heat Sink	
35.	Clip / Fastners	

36.	Wire size, Insulation, Conductor	
37.	Materials	
38.	Optics	
39.	IK protection for Optic Cover;Test report enclosed (Y/N)	
40.	Photometric measurements;Test report enclosed (Y/N)	
41.	Minimum Surge Protection;Test report enclosed (Y/N)	
42.	Surge protection provided inthe Feeder Pillar in kV	

## 27.0 ANNEXURE 8

**TABLE NO: 12 – DRIVER/ CONTROL GEAR DATASHEET TO BE FILLED BY SUCCESSFUL CONTRACTOR**

Sr. No.	Parameters	Requirements / Value
1.	Type	
2.	Driver Efficiency	
3.	Driver Life	
4.	Operating Voltage Range	
5.	Frequency	
6.	Power Factor	
7.	Total Harmonic Distortion (THD)	
8.	Protection Class	
9.	Operating Temperature Range	
10.	Minimum in-built Surge Protection	
11.	IP Protection	
12.	Output Current Range	
13.	Output Voltage Range	



14.	Output Power	
15.	Short Circuit Protection	
16.	Open Circuit Protection	
17.	Over Voltage Protection	
18.	Over Temperature Protection	
19.	Under Voltage Protection	
20.	String Open Protection	
21.	EMI Compliant	

SECTION-6

**BILL OF QUANTITIES/ESTIMATES**

**[ATTACHED SEPARATELY]**

**SECTION 7**  
**SECURITIES AND OTHER FORMS**

**FORMS OF SECURITIES**

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms, or in a similar form acceptable to the Employer.

Annex I: Bid Security (Bank Guarantee)

Annex II: Performance Bank Guarantee

WHEREAS, [Name of Bidder] (hereinafter called "the Bidder")  
has submitted his Bid [date] for the \_\_\_\_\_  
"\_\_\_\_\_"; Package No. \_\_\_\_\_ (hereinafter called "the Bid").

SEALED with the Common Seal of the said Bank this                      day of                      The

- 1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid; or
- 2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:
  - (a) Fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
  - (b) Fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or
  - (c) does not accept the correction of the Bid Price pursuant to Clause 27; we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS SEAL

<sup>1</sup> The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

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**PERFORMANCE BANK GUARANTEE**

To: \_\_\_\_\_ *[name of Employer]*  
 \_\_\_\_\_ *[address of Employer]*

WHEREAS \_\_\_\_\_ *[name and address of Contractor]*  
 (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. dated \_\_\_\_\_ to execute  
 \_\_\_\_\_ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ *[amount of guarantee]* <sup>1</sup> \_\_\_\_\_ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ *[amount of guarantee]*<sup>1</sup> as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ..... (i.e.) 28 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

1 An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

**SECTION: 8**

**DRAWING AND CHARTS**

## **SECTION -9**

### **DOCUMENTS COMPRISING THE BID**

The Bid to be submitted online by the Bidder as shall be in 2 (Two) parts comprising the followings:

- PART-I shall be named as “TECHNICAL BID” and shall comprise:
  - (i) Bid Security in form specified in SECTION-7 or as mentioned I IFB
  - (ii) Qualification information and supporting documents as specified in SECTION-2.
  - (iii) Certificates, Undertakings, Affidavits as specified in SECTION-2.
  - (iv) Undertakings that the Bid shall remain valid for the period specified in Clause 15.1 of ITB.
  - (v) Undertakings that the Bidder will invest a minimum (As mentioned elsewhere) of the bid value for the work.
- PART-II shall be named “FINANCIAL BID” and shall comprise
  - (i) Form of Bid as specified in SECTION-2.

**Technical & Financial bid will be submitted on line.**

Hard copy of Technical Bid will be sealed and marked in accordance with the sealing and marking Clause 10 and signed at every page by the **Bidder or by the Power of Attorney holder**.