

**SYAMA PRASAD MOOKERJEE PORT, KOLKATA**  
**(Formerly Kolkata Port Trust)**  
**HALDIA DOCK COMPLEX**



श्यामा प्रसाद मुखर्जी पोर्ट, कोलकाता  
**SYAMA PRASAD MOOKERJEE PORT, KOLKATA**  
Formerly Kolkata Port Trust

**ENGINEERING DEPARTMENT INVITE E-TENDER**

**[E-Tender. SDM (P&E)/T/ 18 /2023-2024**

**FOR**

**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs.**

**Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK**

**Nov- 2023**

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**SYAMA PRASAD MOOKERJEE PORT, KOLKATA  
(FORMERLY KOLKATA PORT TRUST)**

**HALDIA DOCK COMPLEX**

**SHORT E-TENDER NOTICE**

**E-Tender No. SDM(P&E)/T/ 18 /2023-2024**

Online e-tenders are invited for the work of “**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK**”.

Date of Pre-Bid meeting:29.11.2023, 11:00 Hrs. onwards (on-line /off-line).

Closing date & time of online submission of e-tender:11.12.2023, up to 15:00 Hrs.

For details of tender and any corrigendum / addendum, please visit **RailTel’s e-Nivida Portal’s** [e-portal <https://kopt.enivida.in>].

**General Manager (Engineering)  
Haldia Dock Complex  
SMP, Kolkata**

**SYAMA PRASAD MOOKERJEE PORT, KOLKATA  
(FORMERLY KOLKATA PORT TRUST)**

**HALDIA DOCK COMPLEX**

**NOTICE INVITING E-TENDER**

**(E-Tender No. SDM(P&E)/T/ 18 /2023-2024)**

E-Tenders, under single stage two part system [Part I: Pre-qualification & Techno-commercial Bid and Part II: Price Bid] are invited on behalf of Haldia Dock Complex (HDC), Syama Prasad Mookerjee Port, Kolkata (SMP,Kolkata), from the intending bidders, fulfilling the “**Minimum Eligibility Criteria (MEC)**” and complying with the “Other documents” for the work of “**Design, Supply, Installation, Testing and Commissioning of 35 nos. 30M high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED Luminaires on existing 50Nos. 30M high Mast & 15Nos. 27.5Mtrs. Lattice type lighting towers along with Comprehensive Maintenance Contract of 5years at different zone of HDC, SMPK.**”

**2.1 MINIMUM ELIGIBILITY CRITERIA (MEC):**

**2.1.1** The average annual financial turnover of the bidder, during the last three (3) years, ending 31<sup>st</sup> March 2023, must be at least **Rs 4,84,10,324.70**. Auditor’s Report of the bidding firm, certified by Chartered Accountant (CA) with valid UDIN, for the years 2020-21, 2021-22 and 2022-23 including relevant Audited Balance Sheets and Profit & Loss Accounts, should be made available.

**2.1.2** The bidders must have experience of having successfully completed “Similar Works” [defined below] during last seven (7) years, ending last day of month previous to the one in which tenders are invited, and the experience must be either of the following:-

- Three similar completed works of contract value not less than Rs 6,45,47,099.60 each, having completed minimum value of Rs 5,80,92,389.60 towards High mast illumination work and experience towards HT works each.

Or

- Two similar completed works of contract value not less than Rs 8,06,83,874.50 each, having completed minimum value of Rs 7,26,15,487.10 towards High mast illumination work and experience towards HT works each.

Or

- One similar completed work of contract value not less than Rs 12,90,94,199.00. Having completed minimum value of Rs 11,61,84,779.00 towards High mast illumination work and experience towards HT works.

The term “*similar works*” means –

- i) Firms having experience in “**Supply, Installation, Testing and Commissioning of 30 M High Mast Lighting Tower with HT Electrical installations**” at Port Sectors / Central Govt. / State Govt. / PSU / other reputed organisations.

Or,

- ii) Joint Venture / Consortium having experience in “**Supply, Installation, Testing and Commissioning of 30 M High Mast Lighting Tower with HT Electrical installations**” at Port Sectors / Central Govt. / State Govt. / PSU / other reputed organisations.

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**Note:**

1. The bidder(s) will upload the scanned copies of work order(s) for similar works, successful completion certificates (with performance) from clients indicating the date of completion, value of work done in above executed work(s) etc.
2. Work Experience as a sub-contractor or supply contractor shall not be considered as requisite qualification.
3. High mast illumination work includes:- Cost towards High mast(s), luminaires, HT/LT cables, Package outdoor sub-station(s), earthing system, HT/LT cable jointing kits, Feeder pillar boxes, LT panels, civil foundation of high mast, civil foundation of feeder pillar boxes, civil foundation of package outdoor sub-station. Excluding HT switchgears and transformers.

**2.1.3 a.** The Bidder for pre-qualification may be a single entity or a group of entities (Joint Venture / consortium), coming together to implement the Project. However, no bidder applying individually or as a member of a Consortium, as the case may be, can be member of another Bidder. The term Bidder used herein would apply to both a single entity and a Joint Venture / consortium.

**b. Guidelines for participation of a single entity who had previously participated in any work of similar nature as one of the member of a Joint venture.**

When the bidder is a single entity, who had previously participated in any work of similar nature as one of the member of a Joint venture, uses the credential of that particular work to justify his/her technical eligibility criteria for the instant tender, then the value of the completed work shall be reckoned only to the extent of the concerned member's share in that JV firm for the purpose of satisfying his/her compliance to the technical eligibility criteria in the instant tender.

**2.1.4** Two or more bidders may form a "Joint Venture / consortium" among themselves or by including some other firms having required expertise/ experience and submit the offer in the name of "Joint Venture / consortium". If the offer is made in the name of "Joint Venture/ consortium" the details and composition shall be clearly spelt out in the Technical bid. If a joint venture firm/ consortium is pre-qualified, the responsibility for execution of works and operations and maintenance shall be in accordance with the Joint Venture/consortium agreement and no deviation from the terms of the JV / consortium agreement will be permitted without prior approval of the Engineer. Tenders submitted by a joint venture / consortium of two or more firms, as partners shall comply with the following requirements:

- a) Companies/contractors may jointly undertake the contract. Each entity would be jointly and severally responsible for completing the task as per the contract, however declaration of Lead member to be indicated by the bidders in their MOU. The firms with at least 26% equity holding each be allowed to jointly meet the eligibility criteria.
- b) The tender, and in case of a successful tender, the Form of Agreement, shall be signed so as to be legally binding on all partners.
- c) One of the partners shall be nominated as being In-charge (Lead Partner); and this authorization shall be evidenced by submitting a Power of Attorney signed by legally authorised signatories of all the partners;
- d) The partner In-charge (Lead Partner) shall be authorised to incur liabilities and receive instructions for and on behalf of any or all of the partners of the joint

venture and the entire execution of the contract including payment shall be done exclusively with the partner in charge;

- e) All partners of a joint venture shall be jointly and severally liable for execution of the contract in accordance with the contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Tender Form and the Form of Agreement (in case of a successful tender); and
- f) A certified copy of the agreement entered into by the members of the joint venture/consortium shall be submitted with the tender.
- g) Value of a completed work done by a Member in an earlier JV Firm shall be reckoned only to the extent of the concerned member's share in that JV firm for the purpose of satisfying his/her compliance to the above mentioned technical eligibility criteria in the tender under consideration, if applied as a JV / consortium for this particular work.
- h) All partners of a joint venture/ consortium shall meet following Qualifying factors collectively:
  - (i) annual turnover from construction;
  - (ii) particular construction experience.

## **b) DOCUMENTS**

### **2.2.A. ESSENTIAL DOCUMENTS:**

The bidder should also upload scanned copies of the following documents along with bids;

- a) Scanned copies of Audited Balance Sheets and Profit & Loss Accounts for the years 2020-21, 2021-22 and 2022-23, certified by Chartered Accountant (CA) with valid UDIN.
- b) Scanned copies of work order(s) for similar works, successful completion certificates (with performance) from clients indicating the date of completion, value of work done in above executed work(s) etc.

**Work Experience as a sub-contractor or supply contractor shall not be considered as requisite qualification.**

- c) Valid Electrical Contractor's License issued by competent authority of State / Central Govt. in line with The Indian Electricity Rules, 1956 or Central Electricity Authority Regulation 2010.

**Note: The bidders upload scanned copy of valid Electrical Contractor's License.**

### **2.2. B. OTHER DOCUMENTS:**

- i. Goods and Services Tax (GST) Registration Certificate, issued by Government of India.
- ii. Scanned copy of **Power of Attorney (if applicable)**.
- iii. **The bidder(s) should submit illumination design considering design criteria as mentioned in technical specification [section-VI, clause 2 A)].**
- iv. Valid **Profession Tax Clearance Certificate (PTCC) or Up-to-date Profession Tax payment challan**, if applicable. If this is not applicable, the bidder must

submit [upload] a declaration in this regard.

- v. Certificate for allotment of **Employees' Provident Fund (EPF) Code No.** [**Latest challan** is to be submitted (uploaded)], if applicable. If this is not applicable, the Bidder should submit [upload] a declaration (in the form of Affidavit), in this regard.
- vi. Registration certificate of **Employees' State Insurance (ESI)** authority, if applicable.
- vii. If this is not applicable, necessary document(s) [to establish Non-applicability], along with **affidavit, affirmed before a first-class Judicial Magistrate** to that effect, are to be submitted [uploaded]. Moreover, such bidder(s) shall have to submit a declaration, confirming that they will obtain registration certificate of ESI authority, if required, and they will indemnify Syama Prasad Mookerjee Port, **Kolkata** against all damages & accident occurring to their labourer (including that of sub-contractor's labourers), in connection with the instant contract, in case they become a Successful Bidder.
- viii. PAN Card, issued by Income Tax Department, Government of India.
- ix. MSEs interested in availing such benefits must enclose with their offer the **Udyam Registration Certificate** with the Udyam Registration Number as proof of their being registered Udyam Registration Portal. The certificate shall be of latest but before the deadline for submission of the bid. Ministry of MSME circular No.16/11/2019-P&G/Policy dated July01,2020 may be referred to.

c) The bidders are required to submit bid as per the instructions of the instant bidding documents (including Notice Inviting e-Tender). Bid will be considered rejected if any of the essential documents as mentioned in Clause no. 2.2.A is not submitted by the bidder.

**d) AVAILABILITY OF THE BIDDING DOCUMENTS:**

The bidding documents (in full) would be available in the following websites:-

- <https://eprocure.gov.in/eprocure/app> of Central Public Procurement Portal.
- <http://www.kolkataporttrust.gov.in> of SMP, Kolkata [Formerly Kolkata Port Trust].
- <https://kopt.enivida.in> of E-Nivida Portal.

Corrigenda, Addenda, Queries & Clarifications, if any, would also be available in the aforesaid websites.

**e) PARTICIPATING IN THE BIDDING PROCESS:**

- The bidders will have to participate in the electronic bidding process through the website of <https://kopt.enivida.in> of **E-Nivida** only.

**General Manager (Engineering)**  
**Haldia Dock Complex**  
**Syama Prasad Mookerjee Port, Kolkata**

## SCHEDULE OF TENDER (SOT)

**E-Tender No. SDM(P&E)/T/ 18 /2023-2024**

3.1.	Name of work	::	<b>Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast &amp; 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.</b>
3.2.	Tender Inviting Authority	::	<b>General Manager (Engg.), Haldia Dock Complex, SMP, Kolkata</b>
3.3.	Mode of Tender	::	<b>e-Procurement System.</b> Online (Part I: Pre-qualification & Techno-commercial Bid and Part II: Price Bid) through <a href="https://kopt.enivida.in">https://kopt.enivida.in</a> of e-Nivida. <b>No physical tender is acceptable by Haldia Dock Complex, SMP, Kolkata.</b>
3.4.	Estimated Cost	::	<b>Rs 16,13,67,749.00 (excluding GST).</b>
3.5.	i) <b>Bid Document Fee (Cost of bidding documents)</b>	::	The intending bidders should deposit <b>Rs 2,950.00 (Indian Rupees: Two thousand nine hundred and fifty) only [including GST @ 18%]</b> , as Bid document Fee (non-refundable), to Haldia Dock Complex. Mode of Payment: - E-payment only through Debit / Credit Card or Net Banking/ e-Wallet/ UPI. Bidder has to select the payment option as “e-payment” to pay the tender fee as applicable and enter details of the instrument. Otherwise their offer will be summarily rejected. Copy of the e-payment Slip should be uploaded. In case the aforesaid Bid Document fee [non-refundable] is not deposited by the Bidder, the respective bid will be summarily rejected, treating the same as non-responsive. <b>For exemption of Bid Document Fee:- Bidders to upload the scanned copy of the Udyam Registration Certificate with the Udyam Registration Number as proof of their being registered Udyam Registration Portal in electronic format.</b>
	ii) <b>Earnest Money Deposit (EMD)</b>	::	The intending bidders should deposit <b>Rs 26,13,677.00 (Indian Rupees: Twenty six lakhs thirteen thousand six hundred and seventy seven) only</b> , as Earnest Money, to Haldia Dock Complex, Mode of Payment: - E-payment only through Debit /

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



		<p>Credit Card or Net Banking/ e-Wallet/ UPI.</p> <p>Bidder has to select the payment option as “e-payment” to pay the EMD as applicable and enter details of the instrument.</p> <p>Otherwise their offer will be summarily rejected. Copy of the e-payment Slip should be uploaded.</p> <p>Or,</p> <p>The intending bidder may deposit an amount of <b>Rs 10,00,000.00</b> through DD/Banker Cheque in favour of Syama Prasad Mookerjee Port, Kolkata on any Scheduled /Nationalized Bank payable at Haldia, and the balance amount of <b>Rs 16,13,677.00</b> in the form of Bank Guarantee valid for 180 days with a further claim period of three (3) months.</p> <p>Copy of the DD/Banker’s Cheque/Bank Guarantee should be uploaded.</p> <p>In case the said Earnest Money is not deposited by the bidder, the respective bid will be summarily rejected, treating the same as non-responsive.</p> <p>Account details of HDC, SMP Kolkata for purpose of Bank Guarantee is indicated below.</p> <p>Account No.:-1604050000064  Name:-HALDIA DOCK COMPLEX  IFSC Code:-UTBIOHDCF75  MICR Code:-721027006</p> <p><b>For exemption of Earnest Money:- Bidders to upload the scanned copy of the Udyam Registration Certificate with the Udyam Registration Number as proof of their being registered Udyam Registration Portal in electronic format.</b></p>
		<p>A copy of Earnest money and cost of tender document are to be physically deposited at the office of Tendering Authority [Sr. Dy. Manager (P&amp;E), Operational Administrative Building (1st floor), Chiranjibpour, Haldia Dock Complex, Haldia, PIN 721604], separately in a single sealed envelope, mentioning Tender no. with proper marking.</p> <p>Demand Draft /Banker’s Cheque/ Bank Guarantee against Earnest money and cost of tender document, should be submitted/deposited on any scheduled/ nationalized Bank, by the bidder in favour of <b>Syama Prasad Mookerjee Port, Kolkata</b> payable at <b>Haldia</b> before opening of the tender, as specified in the Tender Document.</p>
	iii) <b>RailTel Tender Processing Fee ( Non refundable)</b>	<p>a ) Mode of Payment:- E-payment Only through Debit / Credit Card or Net Banking.</p> <p>b ) Tender Processing Fee (TPF)- 0.1% of estimate cost (Minimum 750/- and Maximum 7500/-) plus GST</p>

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

			<p>@ 18%.</p> <p>c ) Registration Charges: Rs. 2000/- + Applicable GST Per Year.</p> <p>Note:</p> <p>1. The bidders, who are not yet to be registered with RailTel, are advised to get themselves registered with RailTel, at least 72 (seventy-two) hours prior to bid submission.</p> <p>2. Bidders are required to ensure that their corporate email id provided is valid and updated at the stage of registration of vendor with <b>RailTel's e-Nivida Portal</b> (i.e. Service Provider).</p>
<b>3.6.</b>	<b>Completion Period</b>	::	12 months
<b>3.7.</b>	<b>Bid Validity</b>	::	180 days.
<b>3.8.</b>	<b>Performance Bank Guarantee / Security Deposit</b>	::	<p>(i) 10 % of the Contract Value excluding GST during guarantee period of 24 months for complete project.</p> <p>(ii) 10 % of Luminaries value (supply and installation), Feeder pillar box with Smart lighting control system(supply and installation) and Maintenance contract value excluding GST for a period of 36 months after completion of 24 months' guarantee period for complete project.</p>
<b>3.9.</b>	<b>Guarantee Period/Defect Liability Period</b>	::	24 months for complete projects.
<b>3.10.</b>	<b>Date, time and venue of Pre-Bid Meeting (on-line /off-line).</b>	::	<p><b>29.11.2023 at 11:00 Hrs (IST).</b> Office of Sr. Dy. Manager (P&amp;E); Chiranjibpur; P.O. Haldia,Dist. Purba Medinipur; PIN: 721 604; West Bengal; India.</p>
<b>3.11.</b>	i) <b>Publish date of e-Tender at <a href="https://kopt.enivida.in">https://kopt.enivida.in</a></b>	::	<b>16.11.2023</b>
	ii) <b>Closing date &amp; time of submission of e-Tender at <a href="https://kopt.enivida.in">https://kopt.enivida.in</a></b>	::	<b>11.12.2023 up to 15:00 Hrs. (IST).</b>
	iii) <b>Date &amp; time of opening of Part-I (Techno-commercial Bid)</b>	::	<b>11.12.2023 up to 15:30 Hrs. (IST) onwards.</b>
	iv) <b>Date &amp; time of opening of Part-II (Price Bid)</b>	::	<b>Shall be informed separately.</b>
<b>3.12.</b>	<b>Address of the Employer</b>	::	<p><b>Syama Prasad Mookerjee Port,</b> <b>Kolkata</b> <b>(Formerly Kolkata Port Trust)</b> 15 Strand Road,</p>

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

			Kolkata – 700 001, West Bengal, India.
3.13.	Address of Engineer	::	<p><b>General Manager (Engineering),</b> Haldia Dock Complex, <b>Syama Prasad Mookerjee Port, Kolkata.</b></p> <p><b><u>Address:</u></b> Engineering Department Jawahar Tower Complex ; P.O. Haldia Township; Dist. Purba Medinipur ; PIN: –721607, West Bengal, India.</p> <p><b>Telephone no. :</b> + 91-3224-264496 <b>E. mail :</b> <a href="mailto:aganesan.hdc@kolkataporttrust.gov.in">aganesan.hdc@kolkataporttrust.gov.in</a></p>
3.14.	Address of the Engineer's representative	::	<p>Shri R.N.Roy, Sr. Dy. Manager (P&amp;E), Haldia Dock Complex, Operational Administrative Building (1<sup>st</sup> floor), Chiranjibpur; P.O. Haldia, Dist. Purba Medinipur; PIN: 721 604; West Bengal; India.</p> <p><b>Telephone no. :</b> + 91-3224-252526 <b>Mobile no. :</b> + 91 94340 74411 <b>E. mail :</b> <a href="mailto:rnroy.hdc@kolkataporttrust.gov.in">rnroy.hdc@kolkataporttrust.gov.in</a></p>

**General Manager (Engineering)**  
Haldia Dock Complex  
**Syama Prasad Mookerjee Port**

## SECTION – IV

### INSTRUCTIONS FOR ONLINE BID SUBMISSION

#### 4.1 Introduction:

- 4.1.1** Bidders are requested to use internet Browsers Firefox version below 50 / Internet Explorer version 8 or above, and Java 8 Update 151 or 161.
- Further, bidders are requested to go through the following information and instructions available on the RailTel , <https://kopt.enivida.in>, before responding to this e-tender :
- Bidders Manual Kit
  - Help for Contractors
  - FAQ
- 4.1.2** The intending bidders are requested to go through the “**Instructions To Bidders (IB)**” and contents of this bidding document, including all terms & conditions and Technical Specifications, before submitting online tender. Bidders who do not comply with the requirements / conditions, with documentary proof (wherever required), will not qualify in the tender.
- 4.1.3** **SPECIAL NOTE:**  
**THE PRE-QUALIFICATION & TECHNO-COMMERCIAL BID AND PRICE BID SHALL HAVE TO BE SUBMITTED ON-LINE AT <https://kopt.enivida.in> only.**
- 4.1.4** Possession of valid Digital Signature Certificate (DSC) and Registration of the intending bidder with RailTel are pre-requisites for the instant e-Tendering.
- 4.1.5** The online tender should be submitted strictly as per the terms and conditions and procedures laid down in the website <https://kopt.enivida.in>.
- 4.1.6** All entries in the tender should be entered in online Technical & Commercial formats, without any ambiguity.
- 4.1.7** The e-Tender platform shall remain open from the pre-announced date & time and for as much duration as mentioned in the Schedule of Tender (SOT).
- 4.1.8** E-tender cannot be accessed after the closing date and time of e-Tender, mentioned in the Schedule of Tender (SoT) of the instant bidding documents.
- 4.1.9** The intending bidders are requested to submit their bids, keeping sufficient time in hand.
- 4.1.10** In case of any clarification regarding online submission of bids, the intending bidders are requested to contact HDC / RailTel, well in advance, keeping sufficient time in hand.

#### **4.1.11 Contact person (Haldia Dock Complex):**

- (i) Shri R.N.Roy,  
Designation: Sr. Dy. Manager (P&E),  
Mobile No. + 91 94340 74411  
Landline: + 91-3224-252526  
E-mail : rnroy.hdc@ **kolkataporttrust.gov.in**
- (ii) Sri D.Dey,  
Designation: Asst. Manager  
Mobile No. + 91 94340 33492  
Landline: + 91-3224-252577  
e-mail : djdey.hdc@ **kolkataporttrust.gov.in**

#### **Contact persons (RailTel Portal):**

- (i) Shri Siddharth Ghosh  
Mobile No.: + 91 9355030604  
E-mail : ewizardsiddharth@gmail.com
- (ii) Shri Deepak Jha  
Mobile No.: +91 8448288981  
E-mail : ewizarddipak@gmail.com

#### **4.1.12 Bidding in e-tender:**

- (i) The bidders must upload all the documents required as per the instant bidding documents (including Notice Inviting e-Tender). Any other document uploaded, which is not required as per the instant bidding documents (including Notice Inviting e-Tender), shall not be considered.
- (ii) Unit of Measure (UOM) is indicated in the e-Tender platform. Rate to be quoted should be in Indian Rupees, as per UOM indicated in the e-Tender platform or in the bidding documents.
- (iii) The bidders should quote their offered prices appropriately, only in the Price Bid link. Price indicated anywhere else, in any other form or manner, will not be considered for evaluation of Price Bid.
- (iv) Details of cost of e-tender paper remitted should be entered by the participating bidder in the space provided in the e-tender as indicated hereunder:
  - a) Name of remitting bidder :
  - b) Tender No. :
  - c) Amount remitted :
  - d) Date of remittance :
  - e) DD/BC No.:
- (v) Details of Earnest money remitted should be entered by the participating vendor/contractor in the space provided in the e-tender as indicated hereunder:

- a) Name of remitting bidder :
- b) Tender No. :
- c) Amount remitted :
- d) Date of remittance :
- e) DD/BC No.:

#### 4.1.13 **Support/ Preferential Treatment to Micro & Small Enterprises (MSEs) :**

Policies of the Government to support Micro and Small Industries (MSEs, registered as per the following sub-clause) in comparison to non-MSE enterprises shall apply to this procurement.

(i) **Registration of MSEs**

MSEs interested in availing such benefits must enclose with their offer the **Udyam Registration Certificate** with the Udyam Registration Number as proof of their being registered Udyam Registration Portal. The certificate shall be of latest but before the deadline for submission of the bid.

(ii) **Support to MSEs**

- a) Tender sets shall be provided free of cost to MSEs.
- b) MSEs shall be exempted from payment of Earnest Money.

- (iii) Further, in case additional benefits in the form of Purchase preference to MSE is allowable in any tender for supply of goods or services ( provided it is feasible to give part orders to different bidders),

The Procuring Entity reserves its option to give purchase preference to MSEs compared to the non-MSE enterprises as per policies of the Government from time to time. This preference shall only apply to products produced and services rendered by Micro and Small Enterprises. If an MSE bidder quotes a price within the band of the lowest (L-1) +15 percent in a situation where the L-1 price is quoted by someone other than an MSE, the MSE bidders are eligible for being awarded up to 25 percent of the total quantity being procured if they agree to match the L-1 price. In case of more than one such eligible MSE, this 25percent quantity shall be distributed proportionately among these bidders.

## 4.2 Other Instructions related to e-Procurement:

- 4.2.1 The Techno-commercial Bid and the Price Bid shall have to be submitted online at <https://kopt.enivida.in> Tenders will be opened electronically on specified date and time as given in the Tender.

- 4.2.2 All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

- 4.2.3** Information about tenders /corrigendum uploaded shall be sent by email only during the process till finalization of tender. Hence the vendors are required to ensure that their corporateemail I.D. provided is valid and updated at the time of registration of vendor with <https://kopt.enivida.in>. Vendors are also requested to ensure validity of their DSC (Digital Signature Certificate).
- 4.2.4** E-tender cannot be accessed after the due date and time mentioned in NIT.
- 4.2.5** Bidding in e-tender :
- a) Vendor(s) need to submit necessary EMD and Tender fees to be eligible to bid online in the e-tender. Tender fees are non-refundable. No interest will be paid on EMD. EMD of the unsuccessful vendor(s) will be refunded by the tender inviting authority.
  - b) The process involves Electronic Bidding for submission of Technical and Commercial Bid.
  - c) In all cases, vendor should use their own ID and Password along with Digital Signature at the time of submission of their bid.
  - d) During the entire e-tender process, the vendors will remain completely anonymous to one another and also to everybody else.
  - e) The e-tender floor shall remain open from the pre-announced date & time and for as muchduration as mentioned above.
  - f) All electronic bids submitted during the e-tender process shall be legally binding on the vendor. Any bid will be considered as the valid bid offered by that vendor and acceptance of the same by the Buyer will form a binding contract between Buyer and the Vendor for execution of supply.
  - g) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.
  - h) Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.
  - i) No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any vendor confirms his acceptance of terms & conditions for the tender.
- 4.2.6** Any order resulting from this tender shall be governed by the terms and conditions mentionedtherein.
- 4.2.7** No deviation to the technical and commercial terms & conditions are allowed.
- 4.2.8** The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.
- 4.2.9** Vendors are requested to read the vendor guide and see the video in the page kopt.enivida.in to familiarize them with the system before bidding.
- 4.2.10** No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms & conditions for the tender.
- 4.2.11** The bidders must upload all the documents required as per terms of NIT. Any other

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

document uploaded which is not required as per the terms of the NIT shall not be considered.

- 4.2.12** The bid will be evaluated based on the filled-in technical & commercial formats.
- 4.2.13** The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders.
- 4.2.14** Necessary addendum/ corrigendum (if any) of tender would only be hosted in the e-tendering portal of RailTel.
- 4.2.15** Due date of submission of tender will not be extended under any situation.

**4.3 RailTel Tender Processing Fee ( Non-refundable)**

Mode of Payment:- E-payment Only through Debit/Credit Card or Net Banking.

Tender Processing Fee (TPF) - 0.1% of estimate cost (Minimum 750/- and Maximum 7500/-)

plus GST @18%.

Registration Charges: Rs. 2000/- + Applicable GST Per Year



## SECTION – V

### INSTRUCTIONS TO BIDDERS (ITB)

#### **A. GENERAL**

##### **5.1 Definition and interpretations :**

- (a) the term “in writing” means communicated in written form (i.e. by mail, e-mail, fax, telex, etc.) and delivered against receipt;
- (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) “day” means calendar day; and
- (d) “Procurement” means the entire work requirements, as specified in **Section VI Technical Specification.**

##### **5.2 Fraud and corruption**

**5.2.1** It is the policy of **SMP, Kolkata (Formerly KoPT)** to require that bidders, Contractors, Sub-contractors, and Consultants, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, **SMP, Kolkata** :**Error! No bookmark name given.**

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “**corrupt practice**” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
  - (ii) “**fraudulent practice**” means a misrepresentation or omission of facts, in order to influence a public procurement process or the execution of a contract;
  - (iii) “**collusive practice**” means a scheme or arrangement between two or more bidders, designed to establish Bid Prices at artificial , non-competitive levels;  

and
  - (iv) “**coercive practice**” means harming, or threatening to harm, directly or indirectly, persons or their property to influence their participation in procurement process or affect the execution of a contract;
- (b) will reject a proposal for award, if it determines that the bidder, recommended for award, has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract in question;
- (c) Will terminate contract, if it determines at any time that representatives of **SMP, Kolkata** engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the

execution of that contract ;

- (d) will sanction a firm or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that they have, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, a contract;

and

- (e) will have the right to require that a provision be included in Bidding Documents and in contracts, requiring bidders, contractors, subcontractors, and consultants to permit SMP Kolkata to inspect their accounts and records and other documents relating to the bid submission and contract performance.

**5.2.2** Furthermore, bidders shall be aware of the provision stated in GCC.

### **5.3 Eligible bidders**

**5.3.1** A Bidder, and all parties constituting the Bidder, **should have the nationality of any country**. A Bidder shall be deemed to have nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of the country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or contractors for any part of the contract, including related services

**5.3.2** A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder and one or more parties :

- (a) Submit more than one bid in this bidding process.

Or

- (b) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by **SMP, Kolkata** to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under the instant Bidding Documents.

**5.3.3** Participating by a Bidder in more than one bid shall result in the disqualification of all bids, in which such Bidder is involved.

**5.3.4** A Bidder that is under a declaration of ineligibility by **SMP, Kolkata**, in accordance with **ITB Clause No.5.2**, at the date of contract award shall be disqualified.

### **5.4 Authority in signing the bid / offer**

**5.4.1** In case the bid is submitted by a **Proprietorship Firm**, the same should be signed either by the **Proprietor** or other person(s), holding a valid **power of attorney / authorisation** from the proprietor, in connection with this bidding process. The signature of such power of attorney holder(s) / authorised person(s) should be attested by the proprietor. Such **power of attorney / authorisation** should be uploaded along with **Techno-commercial Bid [Part I]**.

**5.4.2** In case the bid is submitted by a **Partnership Firm**, the same should be

signed either by the partner(s), holding valid **power of attorney** from the partners or other person(s), holding valid **authorisation** from such power of attorney holder(s) , subject to approval of the partner(s) in the matter of giving such authorization, in connection with this bid. The signature of such **power of attorney holder(s) / authorised person(s)** should be attested by the **partners** or **power of attorney holder**, as the case may be. Such **power of attorney / authorisation** should be uploaded along with **Techno-commercial Bid [Part I]**.

**5.4.3** In case the bid is submitted by a **Limited Company**, the same should be signed by the person(s) holding valid **power of attorney / authorisation**, executed in his / their favour ( in connection with this bid) and the signature of such **power of attorney holder(s) / authorised person(s)** should also be attested, in accordance with the constitution of the Limited Company. Such **power of attorney / authorisation** should be uploaded along with **Techno-commercial Bid [Part I]**.

**5.4.4** Such **power of attorney holder(s) / authorised person(s)** should put his / their signature identical with the attested one, in the relevant documents submitted / uploaded, in connection with the instant bidding process [including “**Techno-commercial Bid**”]. In case of putting different signatures in different documents / offers, all such signatures should be attested by the same person in line with the above.

## **B. CONTENTS OF BIDDING DOCUMENTS**

### **5.5 Sections of Bidding Documents**

**5.5.1** The contents of the **Bidding Documents** as detailed at “TABLE OF CONTENTS” should be read in conjunction with any addendum / corrigendum issued in accordance with **ITB Clause No. 5.7**.

**5.5.2** The Employer (SMP, Kolkata) is not responsible for the completeness or correctness of the bidding documents and their Addenda, if they were not obtained directly from the source indicated in Notice Inviting e-Tender.

**5.5.3** The bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents [considering all addenda / corrigenda issued] may result in the rejection of the bid.

### **5.6 Pre-Bid Meeting**

**5.6.1** A prospective bidder requiring any clarification of the instant Bidding Documents shall contact **Sr. Dy. Manager (P&E), HDC**, in writing, or raise their enquiries during the **Pre-bid meeting**.

The **prospective bidders** are requested to submit their queries / observations / suggestions / requests for clarification, in connection with the instant Bidding Documents, in advance, to enable **SMP, Kolkata** to prepare response / clarifications and make pre-bid meeting meaningful.

**5.6.2** As indicated in the Schedule of Tender, pre-bid meeting will be conducted off-line on behalf of HDC, SMP, Kolkata. The purpose of this pre-bid meeting will be to clarify issues and to answer questions on any matter (in connection with the instant Bidding Documents only) that may be raised at that stage.

Authorised representative(s) of the prospective bidders will be allowed to

attend the **Pre-bid meeting**, which will be held on the date, time & at the venue stipulated in the **Schedule of Tender (SoT)**.

The **designated representative(s)**, who will be deputed to attend the **pre-bid meeting**, should submit their authorization in this regard. The signature of such designated person(s) should be attested by the authorized signatory of the prospective bidders. Otherwise, the designated person should have to submit the proof of his identity through other means.

**5.6.3** The prospective bidders are advised to attend the pre-bid meeting. However, non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

**5.6.4** Unless otherwise notified, **all the queries / observations / suggestions / requests for clarification** (related to the instant Bidding Documents only) [including the **queries / observations / suggestions / requests for clarification raised during pre-bid meeting**], received till the date of **pre-bid meeting**, will be considered. **SMP, Kolkata's** response / clarifications (including description of queries / observations / suggestions / requests for clarifications, but without identifying its source), in this regard, will be communicated to all the known prospective bidders (i.e. who would **attend pre-bid meeting or submit queries / observations / suggestions or requested for clarification**), in writing, well in advance to the last date of submission of bids. The aforesaid **queries / observations / suggestions / requests for clarification** and **SMP, Kolkata's** response / clarifications will also be hosted in the websites, as specified in the **Notice Inviting e-Tender**.

Any modification to the Bidding Documents, which may become necessary as a result of the **SMP, Kolkata's response / clarifications**, so issued, shall be made through the issue of an addendum / corrigendum, pursuant to **ITB**.

**5.6.5** The Bidder shall be deemed to have **examined** thoroughly the instant Bidding Documents, in full, [considering all addenda / corrigenda issued (if any)], **visited the site & surroundings** and to have **obtained all necessary information in all the matters** whatsoever that might influence while carrying out the job as per the conditions of the instant **Bidding Documents** [considering all addenda / corrigenda issued (if any)] and to satisfy themselves to sufficiency of their bid, etc. If they shall have any issue to be clarified, the same should be brought to the notice of **SMP, Kolkata**, in writing, as set out in **ITB**.

The bidders are advised to acquaint themselves with the job involved at the site, like availability of labour, means of transport, communication facilities, laws and bye laws in force from Government of West Bengal & Government of India and other statutory bodies from time to time. The Bidder shall be deemed to have examined and collected all necessary information as to risk, contingencies and other circumstances, which may be necessary for preparing the Bid.

Visiting the site shall be at the bidder's own expense. Failure to visit to site will no way relieve the Contractor (successful Bidder) of any of their obligation in performing the work and liabilities & responsibilities thereof, in accordance of the contract.

**5.6.6** Necessary Gate Pass/Dock Entry Permit, for entering into the Dock area, will be issued to the designated representative(s) of the prospective bidders, on chargeable basis [as per the extant "Scale of Rates" of SMP, Kolkata,

available at <http://www.kolkataporttrust.gov.in/> of SMP, Kolkata (Formerly Kolkata Port Trust)], to visit the site, for the purpose of inspection only, on receipt of a formal written request. The signature of such designated person(s) should be attested by the authorized signatory of the prospective bidders. Otherwise, the designated person(s) should have to submit proof of his/their identity through other means.

However, during the pre-bid meeting, if the prospective bidders are willing to enter into the dock area, they will be allowed through VIP Pass of HDC free of cost.

Such prospective bidder will be fully responsible for any injury (whether fatal or otherwise) to its designated representative(s), for any loss or damage to property, or for any other loss, damage, costs and expenses whatsoever caused, which, but for the granting of such permission, would not have arisen.

The prospective bidder will be liable to indemnify SMP, Kolkata against any loss or damage to the property of SMP, Kolkata or neighbouring property which may be caused due to any act of prospective bidder or their designated representative(s).

## **5.7 Amendment of Bidding Documents**

**5.7.1** At any time, prior to the last date for submission of bids, **SMP, Kolkata** may, for any reason whether at its own initiative or in response to the **queries/ observations/suggestions/requests for clarification**, amend and modify the bidding documents by issuing Addenda/Corrigenda. Such Addenda/Corrigenda will be hosted in the websites, as specified in the **Notice Inviting e-Tender**.

**5.7.2** Any Addendum/Corrigendum, thus issued, shall be part of the bidding documents and shall be communicated, in writing, to all the known prospective bidders (i.e. who would attend Pre-bid Meeting or submit queries / observations / suggestions or request for clarification), in writing, well in advance to the last date of submission of bids.

**5.7.3** To give prospective bidders reasonable time to take the Addendum / Corrigendum into account in preparing their bids, SMP, Kolkata may, at their discretion, extend the last date for submission of the bids, prior to the closing date & time of e-Tendering.

## **C. PREPARATION OF BIDS**

### **5.8 Cost of bidding**

The Bidder shall bear all costs associated with the preparation and submission of their bid, and **SMP, Kolkata** shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

### **5.9 Language of Bid**

The Bid, as well as all correspondence and documents relating to the bid, exchanged by the Bidder and SMP, Kolkata, shall be written in the **English language only**. If the supporting documents and printed literature, that are part of the bid, are in another language, they must be accompanied by an accurate translation of the relevant passages in the English language, in which case, for purposes of interpretation of the bid, such translation shall govern.

## 5.10 Documents comprising the Bid

5.10.1 The Bid shall comprise of the following :-

(a) Pre-qualification and Techno-commercial Bid:

The Pre-qualification & Techno-commercial Bid comprises all documents [including the Bidding Forms (provided in these bidding documents), duly filled in, signed and stamped] required to be submitted as per the Notice Inviting e-Tender, Schedule of Tender (SOT), Instructions To Bidders (ITB) and any other relevant clause(s) of these bidding documents.

(b) Price Bid:

The Price Bid comprises the prices only and the same are to be submitted electronically, through the website of <https://kopt.enivida.in> only.

## 5.11 Form of Tender

The bidder shall have to submit (upload) the “**FORM OF TENDER**”. This form **must be completed without any alterations** to its format, and no **substitutes shall be accepted**. All blank spaces shall be filled in with the information requested. Such **duly filled in “FORM OF TENDER”** should be uploaded.

## 5.12 Price Schedule

5.12.1 The Bidder shall quote their price on-line (**through e-Nivida Portal only**) as per the **Price Schedule** (Bill of Quantities) in the Price bid (Part-II), without any condition or deviation. Price indicated anywhere else, in any other form or manner, will not be considered for evaluation of Price Bid.

5.12.2 The Bidder should submit (upload) the **unpriced** format [Bidding Form VI : **PRICE SCHEDULE**], of the instant Bidding Documents, duly filled in the GST rates at appropriate places and signed & stamped as token of acceptance.

## 5.13 Bid Prices

5.13.1 The prices are to be quoted by the Bidder **through e-Nivida Portal**, considering the work requirements, as detailed in **Section VI (Technical Specification)** and other terms & conditions of the Bidding Documents (considering all addenda / corrigenda issued).

5.13.2 Except where otherwise expressly provided, the contractor shall have to provide all materials, labour, plant and other things necessary in connection with the contract, although everything may not be fully specified, and although there may be errors and omissions in the specifications.

5.13.3 The prices and rates entered (electronically through e-Nivida Portal) **as per the Price Schedule** (Bill of Quantities), in the Price bid (Part-II), by the **Bidder**, shall include, inter alia, all costs and expenses involved in or arising out of the following:

(a) Supply, delivery, inspection, transportation (including insurance), handling, receipt and storage of all required materials [in line with Technical Specification (Section VI)] and equipment at site.

(b) The provision, storage, transport, handling, use, distribution & maintenance of all materials, equipment, machinery and tools, including

all costs, charges, dues, demurrage or other outlays involved in transportation.

- (c) The provisions & maintenance of all their staff & labour and their payment, accommodation, transport, fares and other requirements.
- (d) All required first aid, welfare and safety requirements.
- (e) Damage caused to the work and /or construction, plant, materials and consumable stores caused by weather.

**5.13.4** Tools, Tackles, lifting machineries, scaffolding, temporary lighting, different vehicular transport etc. required for execution of the whole work will have to be arranged by the Contractor, at their own risk, cost & arrangement, which may be considered, while submitting their rates in the offer.

**5.13.5** Rates & amounts quoted by the bidders in the “PRICE SCHEDULE”, include all incidental charges [excluding Goods and Services Tax (GST)], as applicable, and charges for packing, forwarding, loading, handling, carrying to any lead, stacking, transportation, permits, overheads & profit, etc. necessary for the complete services as described in this Bidding Document.

GST, as applicable, shall be paid extra against proper invoice submitted by the Contractor.

The contractor will be required to submit GST compliant invoice with all required details and also be required to file timely and proper return so as to enable SMP, Kolkata to get due credit against GST paid.

In case of any failure on the above account, GST amount, even if paid by SMP, Kolkata, shall be recoverable from the Contractor.

**5.13.6** All quoted rates will remain firm during the validity period of the bid / offer, including any / all extension thereof, agreed by the bidder.

However, changes **in statutory taxes & duties [other than GST] will be adjusted** (within the scheduled completion period), based on documentary evidence.

**5.13.7** The Bidder should clearly understand that they shall be strictly required to conform to all terms & conditions of the instant Bidding Documents [considering all addenda / corrigenda (if any) issued], as contained in each of its clauses and **plea of “Customs Prevailing”** will not be, in any case, admitted as excuse on their part, for infringing any of the terms & conditions.

No request for change or variation in rates or terms & conditions of the contract shall be entertained on the ground that the successful Bidder has not understood the work envisaged in the instant contract.

## **5.14 Currencies of Bid**

The **Bidders** should quote the prices in **Indian Rupees (Rs)** only.

## **5.15 Period of validity of bids**

**5.15.1** Bids shall remain valid for the period of 180 days after the bid submission deadline date (considering extension thereof, if any) as prescribed in ITB. A bid, valid for a shorter period, shall be rejected by SMP, Kolkata, treating the same as non-responsive.

**5.15.2** In exceptional circumstances, prior to the expiration of the bid validity period, **SMP, Kolkata** may request the bidders to extend the period of

validity of their bids. The request and the responses shall be made in writing.

A Bidder may refuse the request, without forfeiting their **Earnest Money Deposit (EMD)**. A Bidder granting the request shall not be required or permitted to modify its bid, except when option to do the same has been specifically granted by **SMP, Kolkata**, in writing.

#### **5.16 Earnest Money Deposit (EMD)**

**5.16.1** The intending bidders should submit EMD as specified in the **Schedule of Tender (SOT)**, only MSE bidders are exempted from submission of **Earnest Money Deposit (EMD)**, in accordance with the procedure mentioned therein.

**5.16.2** Failing to deposit the Earnest Money, in accordance with ITB, shall be rejected by the Employer (SMP Kolkata), treating the same as non-responsive.

For exemption of EMD the bidder is required to upload the scanned copy of Udyam Registration Certificate with the Udyam Registration Number as proof of their being registered Udyam Registration Portal. The certificate shall be of latest but before the deadline for submission of the bid.

#### **5.16.3 Refund of Earnest Money Deposit:**

Earnest Money Deposit of the successful bidder shall be retained by SMP Kolkata and Earnest Money Deposit of the unsuccessful bidders [including the bidder(s) whose Price Bid would not be opened in line with ITB] shall be refunded, without interest, within 2 (two) months from the date of opening of Price Bids or on finalization/acceptance of tender, whichever is earlier.

In case the bid of the successful bidder is found acceptable to SMP Kolkata and contract is awarded with them, the Earnest Money Deposit of the successful bidder (Contractor) shall be retained by SMP Kolkata till submission of Performance Guarantee / Security Deposit (in accordance with ITB) and signing of the Contract Agreement by SMP Kolkata and the Contractor (in accordance with ITB), and shall be refunded thereafter.

In case, the successful bid is not found acceptable to SMP Kolkata, Earnest Money Deposit of the successful bidder shall be refunded after the decision, in this regard, is finalized by SMP Kolkata.

#### **5.16.4 No interest shall be payable on the account of Earnest Money Deposit in any case.**

#### **5.16.5 Forfeiture of Earnest Money Deposit :**

The EMD may be forfeited

(a) if a Bidder withdraws their offer within the validity period of the bid / offer; and / or, alters / amends any terms and / or condition and / or quoted rate(s), within the validity period of the offer (excepting when option to do the same has been specifically granted by SMP Kolkata, Haldia Dock Complex in writing) making it unacceptable to the SMP Kolkata, Haldia Dock Complex;

OR,

(b) if the successful bidder,



- i. fails to submit the Performance Guarantee / Security Deposit (as per SCC ) for the specified sum and in the specified form, within the stipulated time;
- ii. fails to carry out the work or to perform / observe any of the conditions of the contract,

For the purpose of this provision, the validity period (of the bid / offer) shall include any / all extension thereof, agreed by the Bidder in writing. SMP Kolkata shall also be at liberty to deduct any of their dues from Earnest Money. It should be however be clearly understood that in case of any default in any terms and or condition of the contract after placement of order but before submission of Performance Guarantee / Security Deposit (as per SCC), the same shall be dealt with in accordance with the relevant provisions of contract, including forfeiture of Earnest Money.

## **D. SUBMISSION OF BIDS AND OPENING OF BIDS (EXCEPT PRICE BID)**

### **5.17 Submission of bids**

- 5.17.1** Bidders shall have to submit their bids [both **Pre-qualification & Techno-commercial Bid** and **Price Bid**] on-line **through e-Nivida Portal only**.
- 5.17.2** The Bidder should submit (upload) the scanned copies of all the relevant and required documents, statements, filled up formats, certificates, etc. [in accordance with **ITB**], in the aforesaid portal, in support of their **Pr-qualification Criteria and Techno-commercial Bid**.
- 5.17.3** Before scanning the aforesaid documents, all pages are to be signed by a person duly authorised to sign on behalf of the bidder, pursuant to **ITB**, and are to be embossed with their official seal, owing responsibility for their correctness / authenticity. All pages of the aforesaid documents should be serially marked.
- 5.17.4** Any inter-lineation, erasures, or overwriting, in the aforesaid scanned & uploaded documents, shall be valid only if they are signed by the aforesaid authorised person.
- 5.17.5** The Bidder will have to produce the original documents or any additional documents, if asked for, to satisfy **Haldia Dock Complex, SMP, Kolkata (Formerly Kolkata Port Trust)**.
- 5.17.6** The **Price Bid** comprised the prices only and the same are to be submitted electronically, through the website of <https://kopt.enivida.in> only. **No hardcopy of priced “Price Schedule” is required to be uploaded.**

### **5.18 Techno-commercial offer**

- 5.18.1** No techno-commercial deviation and variation will be considered by SMP, Kolkata, except where the Techno-commercial terms and conditions, will be found as impossible and irrelevant to the bidder.
- 5.18.2** If the Bidder deliberately gives wrong information or conceals any information / fact in their bid, which shall be favourable for acceptance of their bid, fraudulently, then the right to reject such bid at any stage of execution, without any financial liability, is reserved by **SMP, Kolkata**.

### **5.19 Priced offer**

The Bidder should quote the offered rate appropriately in the PRICE BID, electronically, through the website of **e-Nivida** only. *Price indicated anywhere else, in*

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

any other form or manner, would not be considered for evaluation of **Price Bid**.

## **5.20 Deadline for submission of bids**

**5.20.1** Bids must be submitted within the closing date & time **indicated in the Schedule of Tender (SOT)**.

**5.20.2** **SMP, Kolkata** may, at its discretion, *extend the deadline for the submission of bids, prior to the closing date & time of e-Tendering*, by amending the Bidding Documents, in accordance with **ITB**, in which case all rights and obligations of **SMP, Kolkata** and bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

## **5.21 Late Bids**

This e-Procurement System would not allow any late submission of bid, after the closing date & time, as per the **Schedule of Tender (SOT)** or extension, if any.

## **5.22 Withdrawal of bids**

**5.22.1** A Bidder may withdraw, substitute, or modify their bid on the e-Procurement System, before the closing date and time specified, but not beyond.

**5.22.2** No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidder on the “**FORM OF TENDER [for Techno-commercial (un-priced) Bid]**.” Or any extension thereof. Modification / Withdrawal of the bid sent through any other means shall not be considered by **SMP, Kolkata**.

**5.22.3** Withdrawal of bid during the interval between such closing time on due date and expiring of the bid validity period, may result in forfeiture of EMD in accordance with **ITB**.

## **5.23 Bid opening [except Price Bid]**

**5.23.1** The bids [**except Price Bids**], will be opened at the date & time, indicated in the **Schedule of Tender (SOT)**.

**5.23.2** The on-line bid-opening event may be viewed by the bidders at their remote end, by logging on to the e-Procurement System. A copy of the bid opening record shall be made available on the e-Procurement System.

# **E. EVALUATION OF BIDS**

## **5.24 Confidentiality**

**5.24.1** Information relating to the evaluation of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the contract award.

**5.24.2** Any attempt by a Bidder to influence **SMP, Kolkata** in the examination, evaluation and comparison of the bids, or contract award decisions may result in the rejection of their bid and forfeiture of **EMD**.

**5.24.3** Notwithstanding **ITB Clause No. 5.24.2**, from the time of bid opening to the time of contract award, if any Bidder wishes to contact **SMP Kolkata** on any matter related to the bidding process, they should do so in writing.

## **5.25 Clarification of bids**

To assist in examination, evaluation & comparison of the bids and qualification of the

bidders, the Employer (SMP, Kolkata) may, at their discretion, ask any bidder for a clarification of their bid. The Employer (SMP, Kolkata) may also ask any bidder to withdraw any terms/conditions mentioned by them in their offer, which are not in conformity with the terms & conditions specified in the bidding documents. In case any bidder fails to submit required clarification within the time stipulated by the Employer (SMP, Kolkata), in this regard, the tender would be processed in absence of the clarifications, which may result in disqualification of the corresponding bidder for the instant tender. Any clarification submitted by a bidder, which is not in response to a request by the Employer (SMP, Kolkata), shall not be considered. The Employer's (SMP, Kolkata's) request for clarification and the response shall be in writing.

No change in the prices or substance of the bid shall be sought, offered or permitted, nor will the bidder be permitted to withdraw their bid before expiry of the validity period of the bid.

## **5.26 Deviations, reservations and omissions**

During the evaluation of bids, the following definitions apply:

- (a) "Deviation" is a departure from the requirements specified in the bidding documents ;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding documents ; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding documents.

## **5.27 Responsiveness of bids**

**5.27.1** Responsiveness of a bid would be determined on the basis of the contents of the bid itself, and clarification(s) in accordance with **ITB**.

**5.27.2** A substantially responsive bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

- (a) if accepted, would
  - i) affect in any substantial way the scope, quality, or performance of the work specified in the Contract; or
  - ii) limit in any substantial way, inconsistent with the Bidding Documents, SMP Kolkata's rights or the bidder's obligations under the proposed contract; or
- (b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

**5.27.3** Bidders shall not contain the following information / conditions to consider them responsive :

- (a) Either direct or indirect reference leading to reveal the prices of the bids in the Techno-commercial offers;
- (b) Adjustable prices, other than the provisions stated in **ITB**.

**5.27.4** If a bid is not substantially responsive to the requirements of the bidding documents, it shall be rejected by SMP Kolkata and may not subsequently be made responsive by the bidder, by correction of the material deviation, reservation, or omission.

## **5.28 Nonconformities, errors and omissions**

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**5.28.1** During examination, evaluation & comparison of the bids and qualification of the bidders, the Employer (SMP Kolkata) may, at their discretion, ask any bidder for submitting any document(s) [in case of shortfall in required documents (relating to capacity or otherwise)]. In case any bidder fails to submit required documents within the time stipulated by the Employer (SMP Kolkata), in this regard, the tender would be processed in absence of the documents, which may result in disqualification of the corresponding bidder for the instant tender.

Any document submitted by a bidder, which is not in response to a request by the Employer (SMP, Kolkata), shall not be considered. The Employer's (SMP, Kolkata's) request for submission of further document(s) shall be in writing.

**5.28.2** **SMP, Kolkata** shall examine the bids [including the further documents / clarifications received in accordance with **ITB**] to confirm that all documents requested in **ITB** have been provided and to determine the completeness of each document submitted.

**5.28.3** Provided that a bid is substantially responsive, **SMP, Kolkata** may waive any nonconformities or omissions in the bid that do not constitute a material deviation.

### **5.29 Examination of Pre-qualification Criteria**

**5.29.1** At first, the contents of the documents, submitted in support of the Pre-qualification Criteria [including the further documents / clarifications received in accordance with **ITB**] will be scrutinized and evaluated.

**5.29.2** SMP, Kolkata may, at their discretion, seek any other detail(s)/ document(s), in subsequent course, to ascertain and get confirmed about the competence of the bidder. In case any bidder fails to submit required detail(s)/ document(s) within the time stipulated by the Employer (SMP, Kolkata), in this regard, the tender would be processed in absence of the documents, which may result in disqualification of the corresponding bidder for the instant tender. While evaluating Pre-qualification Criteria, regard would be paid to National Defence and Security considerations of the Indian Government.

**5.29.3** In case it is found that the Pre-qualification Criteria has not been fulfilled by the bidder or otherwise their participation has not been found acceptable to **SMP, Kolkata**, the respective bid will be treated as non-responsive and "Price Bid" of the respective Bidder will not be considered further.

### **5.30 Examination of Techno-commercial offer**

**5.30.1** After scrutiny of the **Pre-qualification Criteria, Techno-commercial Bids** of the Pre-qualified bidders [as indicated above] will be scrutinized & evaluated.

**5.30.2** **SMP, Kolkata** shall examine the bid to confirm that all terms and conditions specified in the **Technical Specification (Section VI), GCC (Section VII)** and **SCC (Section VIII)** have been accepted by the bidder without any material deviation or reservation or omission.

**5.30.3** If on examination of the "**Techno-commercial Bid**" of pre-qualified bidders, it is found that they have not accepted all Techno-commercial terms & conditions of the Bidding Documents [considering all addenda / corrigenda, issued], "**Price Bid**" part of such bidder(s) will not be opened. "**Price Bid**" part of other bidder(s) will be opened subsequently as per procedure.

Decision of **SMP, Kolkata** on this matter shall be final.

**5.30.4** The evaluation is also subject to compliance of Department for Promotion of Industry and Internal Trade Order No. P – 45021/2/2017-B.E. – II dated 15.06.2017; Order No. P – 45021/2/2017-B.E. – II dated 28.05.2018; Order No. P – 45021/2/2017-B.E. – II dated 29.05.2019 & Order No. P – 45021/2/2017-B.E. – II dated 04.06.2020 issued pursuant to Rule 153(iii) of the General Financial Rules 2017 in respect of public procurement (Preference to Make in India), order 2017.

Bidders are advised to go through the same to appreciate its implication in the instant tender and furnish documents alongwith their techno-commercial offer, if applicable.

### **5.31 Opening of Price Bid**

**PRICE BIDS** of the bidders, who qualifies in the “Pre-qualification & Techno-commercial Bid”, will be opened on a later date, upon due intimation to the concerned bidders at their address furnished by them in their bid.

The on-line price-bid opening event may be viewed by the bidders at their remote end, by logging on to the e-Procurement System. A copy of the price-bid opening record shall be made available on the e-Procurement System

### **5.32 Comparison & Evaluation of Price-Bid and selection of Successful Bidder**

**5.32.1** While evaluating the Price Bids, the Price quoted by the Bidders against all items of the **Price Schedule** shall be taken into account and the **TOTAL PRICE**, which would be arrived at, by adding quoted prices of all items of the **Price Schedule**, will be considered for evaluation. Selection of the successful bidder will be made on the basis of the “**lowest TOTAL PRICE**” thus arrived.

**5.32.2** In case it is found that the quoted “**TOTAL PRICE**” is same for two or more bidders and their bids become the lowest, the respective bidders will be given chance to submit their fresh Price Bid, subject to the condition that the fresh rate so quoted must be less than the rate quoted by the respective bidders earlier. Selection of the successful bidder will be made on the basis of the revised “**lowest TOTAL PRICE**” thus obtained.

### **5.33 SMP, Kolkata’s right to accept any bid and to reject any or all bids**

**5.33.1** **SMP, Kolkata** reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

## F. AWARD OF CONTRACT

**5.34** Subject to **ITB Clause No. 5.33.1, SMP, Kolkata** shall award the contract to the Bidder whose offer has been determined to be the lowest evaluated bid [as per **ITB Clause No. 5.32**] and is substantially responsive to the Bidding Documents.

### **5.35 Notification of award**

Prior to the expiration of the period of bid validity or extended validity in accordance with **ITB, SMP, Kolkata** shall notify the **Successful Bidder**, in writing, that their bid has been accepted. The notification letter (hereinafter called the “**Letter of Acceptance**”) will be treated as “**Order Letter**” and will constitute the formation of the contract. Such order letter shall specify the “**Contract Price**” in line with **SCC Clause No. 11.1.4 a**).

### **5.36 Signing of contract agreement**

**5.36.1** After placement of order, **contract agreement** [as per the form furnished in **Section- XI**] should be executed between **Syama Prasad Mookerjee Port, Kolkata** and the **Contractor (Successful Bidder)**. In this respect, within a week of receipt of intimation regarding acceptance of their bid, the successful bidder shall have to submit, at their cost, required **Stamp Paper** [Non-judicial Stamp Paper of worth not less than **Rs 50.00**] & **dummy papers** (for three sets).

Immediately after receipt of the above papers & documents, **SMP, Kolkata** will send three sets of **contract agreement form** [one set printed on Stamp Paper & dummy papers and two sets printed on dummy papers], photocopy of **one set of documentary transactions between them and SMP, Kolkata** (till finalisation & award of the Contract) and **Contract Documents** [incorporating all accepted changes and addenda / corrigenda issued, if any], duly signed by the representative of **SMP, Kolkata** at appropriate places on each pages.

Within a week, thereafter, the Contractor (Successful Bidder) shall have to return **Contract Agreement forms** (three sets) [after affixing their common seal], the set of **documentary transactions** and **Contract Documents**, duly signed by them at appropriate places on each page.

**5.36.2** The **contract agreement form & Contract Documents** should be signed by the authorized persons of the Contractor, authorized in this respect.

**5.36.3** After receipt of the **contract agreement forms** (three sets), duly signed by authorised person of **SMP, Kolkata** & authorized person of the Contractor (Successful Bidder), the same shall be kept under **SMP, Kolkata**'s custody, after affixing the Common Seal of **SMP, Kolkata**.

One copy of such **executed contract agreement** (on dummy paper), along with one photocopy of signed **documentary transactions** and **Contract Documents** will be handed over to the Contractor for their record & future reference.

**5.36.4** Until such contract agreement is executed, the other documents referred to the definition of the term “Contract” [**GCC Clause**], shall collectively be the contract.

### **5.37 Performance Guarantee / Security Deposit**

- 5.37.1** Within **twenty-eight (28) days** of issuance of “**Letter of Acceptance**” by SMP Kolkata, the Successful Bidder shall provide the Performance Bank Guarantee in accordance with the Special Conditions of Contract, using the form furnished in Section XI.
- 5.37.2** Failure of the successful bidder to submit the above-mentioned Bank Guarantee for **Performance Guarantee / Security Deposit or sign the contract agreement** shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD in accordance with ITB.
- 5.37.3** All costs, charges & expenses, including Stamp Duty, shall be borne by the Successful Bidder.
- 5.37.4** **No interest / charge**, of whatsoever nature, shall be paid by SMP, Kolkata on the amount of Performance Guarantee / Security Deposit, held by them (as per SCC) at any stage.

### **5.38 Preference to Make in India**

- 5.38.1** By Office Memorandum No. F. No. 6/18/2019-PPD dated 23.07.2020, Ministry of Finance, Department of Expenditure, Public Procurement Division has inserted sub-rule (xi) to amend Rule 144 of the General Financial Rules 2017 as under in respect of public buying:

“Notwithstanding anything contained in this Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and / or screening, on procurement from bidders from a country or countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security, no procurement shall be made in violation of such restrictions.”

- 5.38.2** Also, by Office Memorandum No. P-45021/112/2020-PP (BE-II) (E-43780) dated 14.10.2020, the Government of India, Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (Public Procurement Section) has revised the format for registration of bidders from countries sharing land border with India. The said Memorandum alongwith enclosures is appended after this chapter under Section IV – B of this tender document for necessary compliance including any amendment thereof by the bidders for participation in the instant tender, as required.
- 5.38.3** The evaluation is also subject to compliance of Office Memorandum No. P – 45021/2/2017-B.E. – II dated 16.09.2020 issued by GoI, Ministry of Commerce and Industry, Department of Promotion of Industry and Internal Trade (Public Procurement Section) pursuant to Rule 153 (iii) of the General Financial Rules 2017 in respect of public procurement (Preference to Make in India), order 2017. Bidders are, accordingly, advised to go through the same including subsequent amendment, if any, thereof to appreciate its implication in the instant tender and act accordingly. Submission of necessary documents, if any, by bidders concerned in this regard is imperative.

## SECTION – VI

### TECHNICAL SPECIFICATION

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#### 1.0 GENERAL

1. The works will be executed to comply with the General Specifications for Electrical works and conforming to the Indian Electricity Act & rules, BIS & direction of Engineer.
2. The items of work shall be executed as per detailed technical specifications and scheme. In case of contradiction between schedule of work with its Additional Specification and the General Specification, the former shall prevail.
3. The work will be executed as per general arrangement drawing and detailed fabrication drawings duly approved by the Engineer. The various items of equipment will be ordered only after the drawings are approved and quantities in detail of various items are ascertained as per actual requirements. Therefore, the actual quantities / measurement may vary from the stipulated quantities, which are only estimate.
4. The contractor/agency will engage suitable qualified/experienced/licensed engineering supervisor for the work and suitable skilled personnel with required license for doing the erection work. Required special tools to be operated in the execution of the job.
5. The work will be performed as per the day-to-day instruction and approval of the engineer-in-charge. All materials/ equipment will be used after taking approval of the Engineer.
6. Equipment will be duly inspected in the manufacturer's works / premises by TPI Agency before despatch to the site.
7. The work will be executed as per the programme of completion of the project. The delivery & erection schedule of various materials/ equipment will be as per approval of Engineer.
8. The contractor holds responsibility for the entire job as per relevant specifications. If any item is left out within the schedule of work but if it is considered essential for the completion of the job, the contractor has to carry out the items as extra substituted item.
9. The contractor shall have to make arrangements, at his own risk and cost, for transportation of materials from the point of issue of stores to site of work, if any.
10. The contractor shall ensure that the staff employed by him for execution of the electrical work, possess the valid electrical license issued by competent authority. Consequences arising due to the default of the

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



contractor in not complying with the above condition shall be the entire responsibility of the contractor.

11. All concealed work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.
12. The schematic diagram/dimensional drawings of the various electrical cubical panels shall be got approved from the Engineer before fabrication and shall comply with specifications and Indian Electricity Rules. The panels shall conform to IS: 8623/1993.
13. All panels/DB shall be suitable for 45°C ambient temperature.
14. The MCB shall be of the same make as that of MCB DB's. Contractor shall obtain approval of the Engineer/Engineer-in-charge before procurement of MCB DB's. All DB's shall be double door type confirming to minimum IP-54 degree of protection.
15. Miniature Circuit Breaker shall comply with IS –8828-1996 / IEC 898. Miniature Circuit Breakers shall be quick make and break type for 230 / 415 V A.C., 50Hz application with magnetic thermal release for over current and short circuit protection. The breaking capacity shall not be less than 10kA at 415V A.C. The MCB shall be DIN mounted. The MCB shall be current limiting type (Class – 3).
16. MCB shall be as per their tripping characteristics curves defined by the manufacturer. The MCB shall have the minimum power loss (watts) per pole defined as per the IS / IEC and the manufacturer shall publish the values.
17. The MCB housing shall be heat resistant and having high impact strength. The terminal shall be protected against finger contact to IP20 degree of protection.
18. All model of modular accessories required for the work shall be got approved from the Engineer/Engineer-in-charge among the preferred makes. The base plate shall be preferably in sheet steel or otherwise in unbreakable polycarbonate. The cover plates shall be screw less type in shade approved by the Engineer. The GI box shall be of the same make as the modular accessories.
19. Contractor shall have to check the site order Book for any instructions of Engineer/Engineer-in-charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded there in.
20. All the MCCB's shall have microprocessor based trip unit for reliable protection and accurate measurement. The rated Service breaking capacity (kArms) shall be 100% of Ultimate breaking capacity (kArms). All MCCB's shall be current limiting type with features as per relevant IS codes and specification. There has to be total discrimination between the incoming and outgoing MCCB's and MCB's, as required, at the MDB's

and DB's level.

21. MCCB's shall be used with rotary handle and terminal spreaders and all terminals shall be shrouded to avoid direct contact.
22. All measuring CT's, unless otherwise specified shall be cast resin CT's with class 0.5 accuracy. All digital measuring meter shall be with class 0.5 accuracy unless specified otherwise.
23. Mechanical Castle key interlock shall be provided among the incomer MCCB's, wherever, as applicable, two different incomer sources are provided in the panel as per the directions of the Engineer/ Engineer-in-Charge. The same is deemed included in the scope of work.
24. All measuring and indicating instruments shall be protected through MCB's of 0.5 Amps rating.
25. General arrangement drawing of the switchboard, LT/HT switchgear shall be got approved by the Engineer/Engineer-in-Charge before commencement of manufacturing.
26. Conduit layout as per switching arrangement shall be prepared by contractor and got approved from the Engineer before slab casting. At all expansion joints in the building suitable arrangement shall be ensured during conduiting.
27. Ratings, sizes and quantities shall be checked and considered for satisfactory operation of electrical system complete in all respect.
28. Conduits, Switchboards, Sockets to be provided on walls shall be open type unless specifically approved by Engineer.
29. Conduits on ceiling in existing system may be provided on surface and in new construction shall be open type.
30. All measuring and indicating instruments shall be protected through MCB's and isolating switches.
31. Breaker shall have LCD display to show the metering and protection parameters.
32. **Package outdoor Units, Cables, Load Point Panels and High Masts will be inspected in the respective manufacturer works before despatch and test reports, as applicable, as per BIS standards will be provided for each equipment to Third Party Inspection (TPI) Agency. The TPI Agency is appointed by the port and cost of TPI Agency is borne by the Port.**
33. The firm shall deploy only licensed personnel as required under IE Rules, for execution of the electrical works. The firm shall be liable to submit the list of such personnel along with the attested copy of the licenses at the time of execution.

34. It is important that every equipment is tested fully before despatch.
35. All materials for the work shall be supplied from preferred list of manufacturer and any item, not covered in preferred list, shall be supplied after getting approval from Engineer or his authorized representative.
36. Any materials brought for work which is not matching with specification will be rejected and the rejected materials shall be removed from site on the same day.
37. All fees payable to concerned authorities and other local bodies, if any, shall be paid by the contractors.
38. Any part or whole of the system which requires approval of the Central Electricity Authority, or any other statutory body, should be arranged by the Contractor at his cost. It is the responsibility of the Contractor to submit the system drawings with all details to the Electrical Inspectorate and obtain their approval.
39. Contractor shall obtain permit/approval from concerned authorities before commencement of work. All documents/drawings required for such permit/ approval shall be prepared by the contractor.
40. Contractor shall have a valid electrical contractor licence with HT installation issued by appropriate authorities.
41. Test certificates, both type test and routine tests, wherever required shall be furnished along with supply for all Electrical/Mechanical items.
42. The contractor shall supply the cable in single length based on the manufacturer drum standard. If straight through joints are required, approval of competent authority may be taken. Also, the joint shall be located, by making a pit (civil work) for free maintenance and future identification.
43. Inspection / acceptance, in no way shall absolve the contractor from supplying material as per standards / codes and warranty or other obligations under the contract.
44. The contractor shall arrange the testing/measuring equipment by own cost to carry out pre-commissioning test of all equipment at site as per IER.
45. All electrical works shall be tested by the contractor in the presence of TPI Agency and to the entire satisfaction as per IE Rules.
46. Data to be furnished by the bidder after award of order
  - a) The contractor shall submit detail shop/fabrication/layout drawings for Package substation, cables, trench, High Mast, Feeder Pillar Boxes, Load Point Panels, Luminaire etc.

- b) Five Set of copies of installation, operation and maintenance manuals, descriptive bulletins etc, shall be furnished prior to / at the time of despatch of all materials. Manuals shall include the following aspects:
- i) Outline dimension drawing showing relevant cross sectional views, earthing details and constructional features including foundation drawing.
  - ii) Rated voltage, current, duty cycle and all other technical information, which may be necessary for correct operation of the switchgear.
  - iii) Storage details for prolonged duration.
  - iv) Unpacking.
  - v) Handling at site.
  - vi) Erection
  - vii) Pre-commissioning test.
  - viii) Operating procedure.
  - ix) Maintenance procedures.
  - x) Precaution to be taken during operation and maintenance work.
- c) Test Certificates

The contractor supply all the LT Panels, Feeder Pillars, Load Points from the Manufacturers, who are having type test certificate issued by CPRI / ERDA. Also, the contractor shall furnish the type test certificate issued by CPRI / ERDA to the manufacturers of similar rating during approval of above equipment.

- d) On completion of work, the contractor shall submit all drawings, manuals and test certificates, etc. for all equipment / materials ordered and as specified by the Engineer.

## 2.0 SCOPE OF WORK

### A) Design Scope:-

Design, Supply, installation, testing and commissioning of 35 Nos. new 30 Mtrs. High [ Hot Dip Galvanised] High Mast ; 50 Nos. existing 30 Mtrs. High [Hot Dip Galvanised] High Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers at different zones of HDC, SMP, Kolkata for improvement of illumination level.

### **Regulation 16:-**

The illumination in the dock working area should be maintained minimum 25 Lux and passage for dock worker and other than working area 10 Lux as per Dock safety regulation 1990.

**Technical Criteria for illumination:-**

- i) Illumination level shall be designed to maintain minimum 25 Lux at a radius of 60 Mtrs. on the periphery of each 30 Mtrs. High Mast/lattice tower.
- ii) Illumination design will be submitted by the contractor along with their bid, which would be issued by the luminaire manufacturer. Bidders are requested to offer only one design, incase bidder(s) submits more than one design meeting technical criteria, design having lowest wattage per high mast/ lattice tower would be consider by HDC, SMPK for evaluation.
- iii) If the illumination level of 25 Lux minimum is not achieved at a radius of 60 Mtrs. of each High Mast/ Lattice towers, the contractor would be required to provide additional Luminaries to meet 25 Lux minimum illumination level at a radius of 60 Mtrs. on the periphery of each High Mast/ Lattice towers. However, cost toward additional Luminaries and additional energy charges for 5years, will have to be borne by the contractor as Penalty.

**Penalty:-**

As per design offered during bidding		As per Actual		Total additional cost of energy for 5years operation of system $E = F \times (W1 - W2) \times 100$
No. of Luminaire per High Mast /lattice Tower (Nos.)	Total Wattage per High Mast/lattice Tower (Watts) W1	No. of Luminaire per High Mast/lattice Tower (Nos.)	Total Wattage per High Mast /lattice Tower (Watts) W2	

**Note:-**

Cost of energy based on design offered for 5years operation: -  
Factor (F)= 154.833

[ Year @5 = 1825days  
Operation per day =12Hrs.  
Cost of energy=Rs7.07per unit (kWh)  
Watt to KiloWatt conversion= 1/1000  
F=1825 X 12 X 7.07/ 1000 = 154.833]

**B) Electrical Works (Supply, Delivery, Installation, Testing & Commissioning) for New HM Towers:-**

- a) 11kV, 630A, VCB Panel of 25kA for 3sec. for drawing power from existing sources for existing Package outdoor Sub-station/station transformer.
- b) **3C x 185Sqmm. 11(E) kV grade XLPE Aluminium armoured cables** along with

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

heat shrinkable type end termination and St. through Joints from existing Substation to outdoor Package Substations.

- c) One new **outdoor Package Substation** to accommodate transformer together with HT & LT switch Gear each comprising of

❖ **Outdoor Package Sub-station 1: -**

- i) Transformer:-500 kVA, 3.3/0.433 kV Dry Type **Resin Cast** transformer for LT supply.
  - ii) HT Panel:- a) 1No. 3.3 kV SF6 encapsulated VCB for transformer.  
b) 3Nos. Load Break switches / Isolator (one for incoming and two for Outgoing).
  - iii) 800A, Copper Bus bar, LT panel board/ switchgear.
  - iv) From 3.3 kV SF6 encapsulated VCB to Transformer Primary (Three Core 1 run of 95Sq.mm Copper, unarmoured, rubber cable) with end terminations (heat shrinkable).
  - v) Transformer secondary to LT Panel (4Nos. 800A Silver Plated Copper bus bar P+N).
  - vi) LT APFC (Microprocessor based) capacitor panel with capacitor bank of 150 kVAR rating.
- d) Earthing of all Electrical Installations and Electrical Equipment
- e) Laying of cables between LT panel/ switchgear at package substation to load points.
- f) Laying of cables between Load Point to Load Point for interconnection.
- g) Laying of cables between load point to smart Feeder pillar Box (located near the High Mast towers).
- h) Laying of cables between existing Feeder pillar Boxes.
- i) Laying of cables between existing Substation to existing Feeder pillar Boxes.
- j) Design, Supply, Erection, Testing and Commissioning of 35 Nos. new High Mast type Lighting Towers with LED type Luminaire on each Towers.
- k) Supply, Erection, Testing and Commissioning of Load Point Panel, JB's and Feeder Pillar Box.
- l) Design, Fabrication & erection of Protection Guard around High Mast and Load Point Panels by using second hand rail (to be supplied by HDC on free of cost basis).

**C) Electrical Works (Supply, Delivery, Installation, Testing & Commissioning) for existing HM/Lattice Towers:-**

- a. Dismantling, Transportation, Erection, Testing and commissioning of **10Nos. existing 30Mtrs. High Mast Towers including Luminaries.**

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

- b. Design, Supply, Erection, Testing and Commissioning of LED type Luminaire on existing 50Nos. 30 Mtrs. **High Mast** Tower along with LED type twin dome Aviation fitting.
- c. Dismantling, Transportation of 2x400W /1X400W HPSV Luminaire, Winch Assy., SS wire rope to site store of HDC from existing 50 Nos. HM Towers & 15 Nos. Lattice Towers. Design, supply, Installation, testing and commissioning of LED luminaire along with other accessories on existing 50 Nos. 30 Mtrs. High Mast Towers & 15 Nos. Lattice Towers by replacing installed accessories (i.e. Luminaire, Lantern carriage, Winch Assy., Wire rope, MCB's, trailing cable, JB's at the top, SS Nut bolts & existing wiring etc.) including supply of all materials required for testing and commissioning of **50 Nos. existing 30Mtrs. High Mast Towers & 15 Nos. Lattice Towers.**
- d. Laying of cables between existing Feeder pillar Box to existing High Mast Towers.
- e. Laying of cables between existing Substation to existing Feeder pillar Boxes.
- f. Supply, Erection, Testing and commissioning of Load Point Panel, JB's and Feeder Pillar Box.
- g. Laying of cables between new load point to Feeder pillar Box (located near the High Mast towers).
- h. Design, Fabrication & erection of Protection Guard around High Mast and Load Point Panels by using second hand rail (to be supplied by HDC on free of cost basis).

#### D) **Civil Works**

- a. Construction of **RCC** Foundation for placing Outdoor Package Substation, High Mast type lighting tower & Load point Panels/feeder pillars and work required for commissioning of Electrical Facilities.
- b. Construction of **RCC** Foundation for existing 10Nos. High Mast along with supply of all items such as GI foundation bolts and Nuts, anchor plate, template etc. as per attached drgs. required for commissioning of the system.
- c. In paver block area RCC foundation work involves, removal of blocks, excavation of sand and earth, providing foundation, back filling[with additional zone-III sand & earth as directed by Engineer] and re-fixing of paver blocks to mend good damaged area.
- d. In case of erection of pile foundation, soil bearing capacity test shall be carried out by the bidder and design to be submitted for approval in connection with

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

construction of Pile Foundation for High Mast type lighting tower.

E) **Maintenance Contract with full responsibility of carrying out repair and supply of required original spare parts to keep the system fully operational condition for a period of 5 years, after commissioning of the system.**

F) **Salient Points.**

- i. High Mast installation layout shall be submitted by the contractor before earth excavation work at site based on approval of HDC, SMP, Kolkata. Contractor shall arrange for all necessary means for erection / installation equipments as per manufacturer's guidelines.
- ii. During execution of the work, if any damage takes place in the existing utility, the same will have to be mended good by the contractor, at their risk, cost and arrangement. Otherwise, the same will be repaired/ replaced by HDC, either departmentally or through outside agency and the cost of repairing/ replacement will be recovered from the contractor, with departmental charges.
- iii. For the purpose of application (by HDC, SMP, Kolkata) for obtaining necessary approval/ clearance from the Regional Inspectorial Organization, Central Electricity Authority / Statutory Authority, the contractor would have to submit/ deposit required documents, drawings, test certificates/ reports etc. to HDC, SMP, Kolkata. The contractor along with the required documents, drawings, test certificates/ reports etc. would also have to be present during inspection by the Regional Inspectorial Organization, Central Electricity Authority / Statutory Authority.
- iv. The contractor should clearly understand that though the application would be made by HDC, SMP, Kolkata to the Regional Inspectorial Organization, Central Electricity Authority / Statutory Authority, for obtaining necessary approval/ clearance from them, it is the responsibility of the contractor concerned to obtain the approval/ clearance from the Regional Inspectorial Organization, Central Electricity Authority / Statutory Authority against the work executed by the contractor.

3.0

**VCB PANEL**

i) **Codes and Standards:**

The switchboards and the mounted equipment shall conform to the latest revisions of the following Indian standards:

IS:12729	General requirements for switchgear and control gear for voltages exceeding 1000 V.
IS:13118	General requirement for circuit breakers for voltages above 1000 V.
IS:3427	Metal-enclosed switchgear and control gear for voltages above 1000 V but not exceeding 11000 V.
IS:5082	Material for data for aluminium bus bars.
IS:9920	Switches and switch isolators for voltages above 1000V.
IS:9921	AC disconnectors (isolators) and earthing switches for voltage above 1000 V.
IS:9046	AC contractors of voltage above 1000 V upto and including 1100 V.
IS:12661	HV motor starters.



IS:13703	Low voltage fuses.
IS:2705	Current transformers.
IS:3156	Voltage transformers.
IS:1248	Electrical indicating instruments.
IS:722	Integrating meters.
IS:3231	Electrical relays for power system protection.
IS:6875	Control switches and push buttons.
IS:694	PVC-insulated cables for working voltages voltage upto and including 1100 V.
IS:2544	Porcelain post-insulators for systems with nominal voltage greater than 1000 V.
IS:11353	Guide for uniform system of marking and identification of conductors & apparatus terminals.
IS:5578	Guide for marking of insulated conductors.
IS:3618	Phosphate treatment of iron and steel for protection against corrosion.
IS:6005	Code of practice of phosphating of iron and steel.
IS:5	Colours for ready mixed paints and enamels.

Wherever Indian Standards are not available, relevant IEC standards shall be applicable.

**ii) General Requirement**

The switchgear shall be of metal clad, Single bus bar/Double bus bar as applicable, self-standing, dust proof construction, indoor cubicle type fitted with vacuum circuit breakers in fully draw out execution.

The VCB shall be horizontally isolated, horizontally drawn-out type, truck mounted and ground operated.

The circuit breakers shall be suitable for following duties

- ⇒ To withstand inrush magnetizing currents of transformers and capacitor bank 'ON' and 'OFF' operation.
- ⇒ Transient surge produced by one CB due to severe chopping during rapid interruptions of inductive current e.g. motors, shall be within limits allowable for overhauled motors according to IEC34 part 1 otherwise suitable surge absorber shall be provided.

- The controls, indicating lamps, relays and meters shall be mounted on separate control & relay panel.
- Operation counter, close/open mechanical indications spring charged/discharged indication shall be provided.
- All circuit breakers shall have motor operated spring charged mechanism for closing and shunt tripping coil (30V DC). Closing coil shall be suitable to operate between 85% to 110% of rated voltage and tripping coil between 70-110% of rated voltage. Spring charging motor shall operate between 85-110% of rated AC Voltage.
- Jumpers in the cubicle also shall be of same current rating as that of the breaker. Only the jumpers connected to CT shall be rated according to CT rating.
- A manually operated device to enable charging of closing springs.
- Manual / Mechanical tripping arrangement for emergency tripping of CBs.
- All circuit breaker truck shall have service, test and draw out positions. Test position shall engage only the auxiliary (control) contacts to close the CB

during testing.

- Panel door switch shall be provided for illumination inside panel.
- Anti-pumping feature shall be provided.
- All live parts shall be insulated by heat shrinkable sleeve only.
- The cubicle shall be provided with a position changing gear arrangement in such a way that by engaging detachable device from outside the front door, it shall be possible to move the breaker truck and change position without opening the cubicle door. Facilities for pad locking in each position shall be provided.
- Each cubicle shall have mimic diagram with metal strip.
- Each cubicle shall be of compartmentalized construction and shall have separate compartments for bus bars, CTs and outgoing cables, metering and protection devices.
- All circuit breaker trucks of same rating shall be identical in all respects (except metering and protective devices) and shall be interchangeable with similar breaker panel.
- Continuous earth bus shall be provided throughout the board.
- The position of various control switches, push buttons, and levers, etc. requiring manual operation shall be at a height not less than 450 mm and shall not exceed 1850 mm from the finished floor level.

**iii)** In the design of the switchgear, the following positive interlocking shall be provided:

1. It shall not be possible to move the truck from the isolated to the Service Position unless low voltage plug and socket connections have been made.
2. It shall not be possible to disconnect the low voltage plug and socket as long as the circuit breaker truck is in service position.
3. It shall not be possible to withdraw the truck without disconnecting the low voltage plug and socket.
4. It shall not be possible to move the truck from the service to the isolated position or vice-versa with the circuit breaker in the 'ON' position.
5. It shall not be possible to switch on the circuit breaker when the truck is in between the isolated and the service positions (except in test position).
6. It shall be possible to switch on the earthing switch only when the truck is in the isolated position, wherever an integral earth switch is provided.
7. It shall not be possible to open the circuit breaker enclosure when the breaker is ON or to have access to any part of the draw out assembly which is live when the circuit breaker is in the service position.
8. Shutters shall be lockable in closed position.
9. Where local/remote selector switches are called for, it shall be ensured that:
  - \* The breaker can be closed locally only if the breaker truck is in the test position and the local/remote selector switch is in local position.
  - \* The breaker can be operated from remote panel (in shop) only when the breaker truck is in service position and the local/remote selector switch is in remote position.
  - \* The breaker can be tripped locally regardless of the position of the breaker truck.

**iv) Earthing Mechanism**

The operating mechanism parts shall be designed to give longer life, trouble free operation and require minimum maintenance.

The material and components shall have chopping current limited to minimum.

v) **Insulation Levels**

Insulation levels corresponding to the rated voltage shall be as follows:

Nominal voltage (kV)	11	3.3
Highest system voltage (kV)	12	3.6
One minute power frequency withstand voltage (kV)	28	10
1.2/50 micro sec impulse withstand voltage (kV)	75	----
Clearance in air	As per IEC	As per IEC

vi) **Short Circuit Strength**

- Rated short time withstand current shall not be less than the system short circuit level specified for the stipulated duration.
- Rated peak withstand current shall not be less than 2.5 times the system short circuit level.

vii) **Auxiliary Buses for Control & Protection**

1. Control supply buses for AC & DC.
2. Signalling supply.
3. PT secondary voltage.
4. Spare buses.

viii) **Provision of surge suppressor**

In case of breakers like VCB that give rise to over voltage surges due to current chopping phenomenon, surge suppressors to be provided at the load side terminals of the breakers to limit the switching surges to value limited for as per IEC.

ix) **Annunciation Schemes**

- Flag indications for all faults for which individual protective relays have been specified.
- Warning signalling (as applicable) on individual panels:
  - a) All transformer warning / signalling conditions (group signal from corresponding transformer control panel / sub-station
  - b) Loss of trip circuit supply
  - c) Earth fault.
  - d) Control supply failure
  - e) PT fuse failure / MCB tripping
- Emergency signalling for tripping of HT breakers on fault
- One common signal for warning and one signal for emergency from each panel to be wired to a common annunciation panel of the switchboard, where specified.
- Annunciators for warning and emergency signalling condition on individual panels of solid-state fascia window type. Common audio signalling with Accept, Reset and Test push buttons for the switchboard where common annunciation panel is not specified. Audio signalling to have distinct tones for warning and emergency.

x) **Bus Bar and Connections**

- Power buses shall be of Copper. Both rectangular and Round busbar are acceptable. The busbars shall be tinned /silver-plated at joints.
- The continuous rating of the main horizontal bus shall not be less than the rating of the incomer specified.
- The vertical bus rating shall be as follows:-

incomer	:	Not less than that of horizontal bus
or outgoing	:	Not less than that of the outgoing breaker, irrespective of relay setting.

- Temperature rise of various parts of the switchgear shall be as per IEC 62271-1:2017.
- Both horizontal and vertical bus bars to be designed and supported to withstand the thermal and dynamic stress corresponding to rated short time and peak withstand current specified.
- Cross-section of main horizontal bus to be uniform throughout the switchboard and continuous in one transport unit.
- Bus bar arrangement as per IS 375.
- Phase identification by colour in each panel.
- Bus bars (horizontal as well as vertical) shall be provided with heat shrinkable, non-tracking, low absorption type sleeving conforming to international standards for full voltage for 33 kV, 11kV & 3.3kV switchboards.

**xi) Internal Control Wiring**

- Control wiring shall be carried out by 1100V grade PVC insulated; single core multi stranded copper wire of minimum cross section 2.5 sq. mm. Similarly, for CT circuits, minimum cross section of 2.5 sq. mm shall be used.
- Flexible wire of 2.5 sq.mm shall be used from CT chamber to relay chamber and shall have protection against heat and mechanical damage due to flash over. Use of heatproof sleeves and rigid conduit shall be made to run the control wires from back to front.
- Wiring and terminal arrangement for all panels shall be carried out as per approved scheme.
- Flexible wires protected against mechanical damage for wiring to door mounted devices.
- Wires identified at each end in accordance with schematic diagrams by interlocked type ferrules. These shall be firmly located so that these do not move.
- Colour code for control wiring

AC – Black	Earth wire – Green
DC – Light grey	Trip circuit – Red

- All telemetering signals shall be wired to terminal strips.

**xii) External Terminations**

*Control Terminations*

- 650V grade multi-way open type terminal blocks of non-tracking moulded plastic complete with insulated barriers, stud type terminals, washers, nuts and lock nuts and identification strips.
- All terminals going out of the switchboard shall be brought to a separate terminal board marked "External Termination". These will be easily accessible.
- External terminal block shall be provided in the relay chamber with proper clamping facilities for cable dressing.
- Control terminals shall be suitable to receive two numbers 2.5 sq. mm copper conductor.
- 20% spare terminals in each control terminal block. Terminal blocks in separate groups shall be provided for DCS/PLC, remote control panels, transformer marshalling boxes, local push button stations, etc.

- Gland plate for control cables shall be of adequate size to accommodate and to facilitate glanding of all the control cables coming from external equipment.
- Terminal blocks shall be placed separately for internal looping and external looping.

**xiii) Power Terminations**

- Suitable for accepting cable/bus trunking as specified.
- Sufficient space and support arrangement inside each panel to accommodate HT cable termination kits and sealing kits suitable for the size and number of XLPE cables. Dummy panels to be provided adjacent to the switch panel, where the required number cable terminations cannot be accommodated in the cabling chamber of the main panel. Rear extension not acceptable.
- Where more than one cable has to be terminated per unit, the arrangement shall permit connection and disconnection of cables separately without disturbing other cables.
- Push – ON type/Heat-shrinkable type cable end terminations / straight-through jointing kits shall be used wherever required.
- Where specified the following cable termination accessories, suitable for the type, size and number of cables to be terminated, to be supplied with switchboard.
  - ⇒ Cable sockets with all HT terminals (sockets set at such an angle that cable tails can be brought up for termination with minimum bending and setting)
  - ⇒ HT cable termination and sealing kits
  - ⇒ Power cable termination facilities shall be designed to facilitate easy approach to CTs.
  - ⇒ Double compression type brass cable glands and crimping type tinned heavy duty copper lugs for HT, LT power and control cables.

**xiv) Protection and Measurement**

**a) Electrical Protection**

Selection of protective scheme will be based mainly on reliability, sensitivity, selectivity. All main protections shall be fast acting type in order to clear the faulty system from the healthy system in earliest possible time to minimise damage to equipment and ensure continuity of power supply.

**b) Protective scheme requirement**

- All the main protective relays shall be microprocessor based numerical and communicable type.
- Auxiliary relays, timers switches, etc. required to make the scheme complete shall be considered as part of the scope of work.
- All CT-PT shall be suitable for the relay- meter requirement - lead burden
- All CT-PT wires shall be brought to test terminal blocks before connecting to circuits.
- The circuits of various protections (coming from other panels) shall be connected to master trip relays through auxiliary relays (flag indicated).
- VAA type auxiliary relays shall be provided for each transformer fault. Connection of the relay shall be through links to facilitate maintenance.
- Relay ranges and scale of meters shall be finalized during drawing approval stage.
- Contact arrangement, number of poles/ways in control/selecter switches shall be as per the requirement/approved scheme.

- ICTs whenever considered necessary shall be included in the scope
- For control supply distribution, panel to panel separate set of terminal blocks shall be provided at top of the panel. All items / accessories required for above in each panel and in incoming panels shall be provided by the supplier.
- All relays shall be hand/self-reset type with flag indication. NO/NC contacts for relays shall be as per the requirement of approved protection, annunciation and interlock schemes. Wherever required supplier shall provide auxiliary relays for contact multiplication.
- Annunciation facia shall be mounted on Incomer switchgear panels and details shall be finalized during drawing approval stage.
- Centre line of switches, lamps, meters shall be matched to give uniform appearance and mounting height of switches shall be between 1.1 to 1.8 m.

**xv) Current Transformer (Panel Mounted)**

- Separate sets of current transformers shall be used for differential protection and separate cores shall be used for, over current protection and measurement purposes. CT's on incomer side shall be mounted before incomer breaker and CT's for outgoing feeder shall be mounted after the breaker.
- Short time ratings and insulation level of CT's shall be similar to rating of associated breaker.
- CT ratios specified are provisional. Where outputs and accuracy are not specified, these shall be such as may be required by the circuits in which they are used. Generally, the protection CT's and metering CT's shall have 5P20 and 0.5 class respectively.
- CT's shall be bar/ window primary type.
- CT's shall have shorting link on secondary side to facilitate insertion of meters on secondary side without opening CT circuits.
- CT Ratio shall be as marked on the Single Line Diagram attached with this Specification.

**xvi) Potential Transformers**

- Fixed type line PT mounted in separate panel shall be acceptable. However, if line PT is located in incomer breaker panel, draw out type PT shall be considered.
- High voltage side of PTs shall have fuses and MCCB's on low voltage side
- Low voltage star winding shall have all three phase and neutral connections brought out to terminals and one phase shall be earthed.
- Insulation levels shall be similar to rating of associated board.
- Accuracy class 1.0 shall be used.
- VA burden shall be selected based on meters and relays connected with the PT.

**xvii) Relays**

- Relays shall be Microprocessor based numerical and communicable type. Protocol for communication shall be IEC 61850.
- All relays shall be flush mounted in dust proof cases and shall be mounted on front side of cubicle.
- Major relays are as indicated in the specification or single line diagram.
- Master trip relay shall be hand reset and shall have 3NO and 3NC contacts in

addition to those required by the protection/control scheme.

- All timers and protection relays shall have flag indicators.
- Relay ranges, exact type, number of aux. relays, timers shall be finalized during drawing approval stage.
- All instantaneous current protection relays shall be of 3 pole type.

**xviii) Indicating Instruments**

- All indicating instruments shall conform to IS: 1248- 1983 and IS - 2419- 1979.
- Shall be capable of withstanding system fault current taking into account CT saturation.
- Shall be back connected.
- Shall be located in the upper part of the panel.
- Shall have 96 sq. mm square flush case, non-reflecting type, clearly divided and indelibly marked scales, sharply out lined pointers and zero adjusting device.
- The minimum scale reading shall not be more than 10%. Maximum reading shall be 150% full load for transformers panels.
- Each voltmeter shall be calibrated with coil hot. The scale shall be open between 60% to 125% of normal volts and shall be suppressed below 60% of normal volts.
- Class of accuracy shall be 1.0 or better.
- The full load reading of each ammeter shall occur at the most prominent part of the scale. The minimum scale reading shall not be more than 10%. Maximum reading shall be 150% full load for transformer panels and 600% full load for motor panels.

**xix) Annunciators**

- Shall be of static type.
- Hooter and bell for trip and alarm indication respectively.
- Shall be suitable to work on DC supply as specified.
- Test, accept and reset facilities (with push button) shall be provided on each panel.
- Suitable audio - visual indication shall be provided on DC failure. Audio alarm with reset facility shall be provided. Visual indication shall be panel- wise.
- Spare annunciation points shall be wired upto terminal blocks. 20% spare facias shall be provided.
- Each point shall have two bunch LEDs in parallel.
- All trip points facia shall have red colour and non-trip points white colour.
- The cover plate of facia shall be flush with panel
- Shall be capable to receive simultaneous signals
- Shall be capable to receive signal during testing mode
- Scope of supply includes all interconnections, bell hooter, buzzer, alarm facility, push button etc. required to achieve complete function of above scheme.
- Sequence shall be as follows:

	<b>Visual</b>	<b>Audio</b>
On occurrence of fault	Lamp flashing	on
On acceptance	Lamp steady "on"	off
On reset	Off	off
On test	Lamp flashing	on

- Annunciation in the switchboard shall have following provisions:
  - Each transformer & other feeder shall have 12-way uniform facia.
  - Each bus PT shall have 12-way uniform facia.

- Bus coupler or tie shall have sufficient facia ( for each feeder to indicate tripping +20% spare)
- One common point shall be provided to indicate operation of annunciation system of the complete board (in case of any trouble in the board in tie feeder, bus coupler, incomer etc.)
- All auxiliary relays of transformer feeders shall have 4NO contacts, all master trip relays shall have 2NO contacts for remote/DCS/PLC indication for repeat annunciation in addition to contacts required for scheme under scope of works.

**xx) Control supply**

- Control supply buses shall run throughout the switchgear.
- Two DC feeders shall be taken in each board controlled by MCCB's.
- In each panel for controlling of its DC supply, MCCB (DC duty) shall be used. DC auto changeover and manual changeover facility shall be provided. Failure of DC supply shall be monitored in the switchboard as well as at remote.
- 240V AC shall be taken from station aux. board.
- Each section shall have separate feed with automatic change over scheme.
- Each panel shall have one MCB for controlling its AC supply.
- Sub circuits shall be protected with HRC fuses/ MCB in each panel for indication lamps, closing & tripping circuits.

**xxi) Earthing Devices**

- Either integral earthing switch or a separate earthing switch shall be provided to facilitate earthing of busbars and any feeder circuit.
- Rating of earthing device shall be in line with associated board.
- Interlock provision shall be there so that incomer cannot be closed if bus-earthing device is connected.
- In case feeders are having integral earth switch, earthing trucks may not be required.

**xxii) Control and Selector Switches**

- Control switches for circuit breaker ON/OFF control - 3 position spring return to neutral with lost motion device and pistol grip handle.
- Other control and selector switches - stay put type with wing type knobs.
- Ammeter selector Switches- 4 position, make before break.
- Voltmeter selector switches- 7 positions as required.
- Colour : Black
- Contact Rating:

Continuous	10 amps
AC11	4 amps, 240V
DC11	0.5A, 30V, L/R- 40ms.

**xxiii) Push buttons**

Contact Rating

Continuous	10 amps
AC11	4 amps, 240V
DC11	0.5A, 30V, L/R- 40ms.



**COLOR:**

ACCEPT	BLUE
RESET	BLACK
TEST	YELLOW

**xxiv) Control Circuit Fuses:**  
HRC link type confirming to IS 9224-1979.

**xxv) Protective Earthing**

- Continuous earth bus of minimum size 50x6 mm of copper or equivalent aluminium/galvanized steel section, designed to carry the peak short circuit and short time fault current as specified.
- Provided at the bottom extending throughout the length of the board, bolted/brazed to the framework of each panel with an earthing terminal at each end for terminal at each end for terminating external earth conductor.
- Vertical earth bus for earthing individual functional units.
- Hinged doors earthed through flexible earthing braid.
- Looping of earth connection resulting in loss of earth connection to other devices when the loop is broken not permitted.
- Withdrawable units provided with self-aligning, spring loaded, silver plated copper scrapping earth contacts of make before/break after type, ensuring earth continuity from service to the test position.

**xxvi) Test and Maintenance Equipment**  
Each board to be supplied with 1 set of test plugs.

**xxvii) Constructional Features****Mechanical Design**

- Sheet steel clad, compartmentalized, floor mounted, free standing design.
- Minimum sheet steel thickness: doors and covers - 2 mm cold rolled, other load bearing members - 2.5 mm
- Doors shall be provided with lock and key arrangement
- Degree of protection shall be IP5X.
- Assembled on base channel of structural steel ISMC 75 painted black.
- Operating height shall be between 450 to 1800 mm. Switchboard height not to exceed 2500 mm.
- Earthed metallic barriers between compartments and between vertical sections.
- Seal off bushings wherever bus bars pass through metallic partition.
- Lockable front doors with concealed hinges with door not forming part of the draw-out truck.
- Panels shall be extensible on both sides.
- Removable sheet steel covers shall be provided at rear.
- Explosion vent for each chamber
- Control cables entry shall be from front side.
- CTs shall be located in such a way that that they are easily accessible.
- Panel door switch shall be provided for illumination inside the panel.
- All live parts shall be insulated by taping, supported by suitably designed insulators. Proper insulation of bus bars, upper and lower contacts of breakers and sealing of opening of bushings shall be provided to eliminate accidental contacts.
- Screw wire mesh in the power cable chamber of incoming feeder is to be

provided.

### **INDOOR HT VCB PANEL**

This includes, Design, fabrication, supply, installation, testing and commissioning of HT panel indoor 12 kV, 630 Amps, 3 phase, 50Hz, 21kA VCB for 3sec.

This includes supply at site, Vacuum Circuit Breaker, suitable for 12kV, 21kA, 630A, 500MVA, 3 Phase, 50 HZ effectively earthed, neutral system comprising of proper housing of breaker, safety shutters, isolating plugs and socket and VCB trolley with 3nos. Vacuum interrupters with safe aligning finger type, isolating contacts suitable for vertical/horizontal isolation and horizontal draw out. Necessary control Protection and metering circuits are completely assembled, wired and enclosed in a weather and dust proof cubicle.

The HT Panel shall be made of sheet steel enclosure, dust and vermin proof, suitable for indoor use. This shall be suitable to receive power at 11 kV, 50 Hz, 3 phase AC with all equipment fittings and accessories for efficient and trouble free operation.

- a) 11kV, 630A VCB The self-tripping mechanism with numerical relay with IDMT, over current, earth fault and Instantaneous protection including TVM, MFM and all others panel's indications lamps.
- b) Cable box suitable for receiving two length of 2Rx 3C x 400 Sq. mm HT XLPE aluminium, armoured UG cable.
- c) Insulation level
  - i) 1.2/50 microsecond Impulse withstand voltage 75 kV peak
  - ii) One minute power frequency withstand voltage 28 kV rms
- d) Rated current
  - i) Continuous
    - Bus bar 630 A
    - Incoming/outgoing circuit breaker 630 A
  - ii) Short time current for 3 seconds 21 kA rms
- e) Circuit breaker
  - i) Rated breaking capacity Symmetrical. 21 kA / 3 Sec.
  - ii) Rated making capacity 62.5 kA
  - iii) Total breaking time 7 cycles maximum
  - iv) Operating sequence As per IS/IEC
- f) Type of charging: Manual as well as motorized mechanism with 230V AC operated motor.
- g) Shunt trip coil : 30V
- h) Closing coil : 30V
- i) Busbar chamber with Copper busbars, heat shrinkable PVC sleeved/ powder coated with colour code. The busbars shall be of high conductive electrolyte copper.
- j) 230VAC space heaters with ON-OFF switch and thermostat.
- k) 1phase, resin cast with fuse unit, draw out, line connected PT ratio of  $11000/\sqrt{3}/110$  / $\sqrt{3}$ Volts of 100VA burden to meet with auxiliary power requirement of metering and protection. Having accuracy of 0.5/3P.
- l) Epoxy cast resin CTs with 15VA burden, STR of 25 kA for 1 sec., metering accuracy class 0.5 and protection accuracy 5P20 and having of CTR 400-200/5-5A. The Trivector meters shall be digital type and it should display Amps, Volts, kVA, kW, kWhr, kVAR, PF and MD etc. The meter shall provide with external port for remote monitoring.
- m) The Multi-Function Meter (MFM) shall be digital type and it should display Amps, Volts, kVA, kW, kWhr, kVAR, PF, Frequency and etc. The meter shall provide with external port for remote monitoring.
- n) Breaker ON-OFF LED indicating lamp.

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

- o) Circuit trip/healthy indicating LED lamp with pushbutton.
- p) Breaker spring charged LED lamp indication.
- q) TNC (Trip Neutral Close) switch.
- r) Numerical relays consist of IDMTL + Inst 3 O/C + Inst E/F relay.  
     VAX – 31 Trip circuit supervision.  
     VAJH – 23 master trip. All relays shall be SCADA enabled with event/data logging features
- s) Operating handle, spring charging handle & other required accessories shall be supplied.
- t) Hand held lamps for panel internal illumination shall be provided with 240V AC source.
- u) Hooter for tripping.
- v) 30V DC external supply shall be provided for control circuit of complete breaker operation. Cost of 15Nos., 2V, maintenance free Batteries and Battery charger is to be included with HT panel.
- w) Bus bar support insulator:- Non hygroscopic, track resistant, high strength insulator. (Calculation for validating dynamic force withstands capability to be submitted during drg. Approval)
- x) **Incoming Feeder shall be supplied with line PT. Outgoing feeder without PT.**

### **INSTALLATION OF INDOOR HT VCB PANEL:**

All the VCB's shall be erected by using suitable size of M.S. channel foundation bolts including grouting of the bolts of each VCB panel. Each panel shall be connected with separate and distinct Earthing. After installation of VCB panel, necessary test and trial are to be carried out for proper functioning of safety, devices, relay etc. and before charging VCB all the tests required under relevant ISS and IEC – Rules 1956 shall be carried out and the result shall be in conformity with specifications and copies of test results shall be furnished to EIC. The work includes all Labour & materials required for installation & commissioning of VCB and shall be done as directed by Engineer.

**Work also includes connection and disconnection of existing HT cables from existing Package outdoor Sub-station and re-connection of the same with newly supplied HT Indoor Panel.**

#### **4.0 OUTDOOR PACKAGE SUBSTATION**

Scope of work includes design, manufacture, supply, installation, testing and commissioning of package substation suitable for marine atmosphere.

The prefabricated package substation shall be designed for compactness, fast installation, maintenance free operation and maximum safety for operator / workers.

The package substation with all accessories, fittings and auxiliary equipment in an enclosure shall consist of:

- a) 630A, HT Panel (SF6 encapsulated VCB along with 3nos. Load break switches)
- b) 3.3/0.433 kV, 500kVA, Dry type **Resin Cast** Transformer
- c) 800A, Copper LT Panel / Switchgear
- d) **150kVA, APFC (Microprocessor based) Capacitor Panel**

The panels shall be manufactured as per relevant latest IEC/IS standard and the design and operational features will comply with the provision of latest version of Indian Electricity Act, Indian Electricity Rules and Fire Insurance Regulation.

The specification covers technical and constructional details of outdoor type Package

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**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.**

Substation Unit which shall be capable of performing satisfactorily in open atmosphere/ heavy dust atmosphere with high relative humidity. The Package Substation Unit shall be compact in size, transportable, light weight rugged and of robust construction and capable to withstand rough use in highly humid areas and suitable for use in outdoor location. It shall be installed and overall dimension shall be kept to minimum as far as practicable.

The Package Substation Unit shall be manufactured at original equipment manufacturer's factory and shall have outdoor enclosure of **hot dip** galvanised sheet steel or any type tested enclosure suitable for operation in Dock area. However, enclosure shall be **1.5 mm** thick with **2.5 mm** thick base, dust and vermin proof and suitable for outdoor installation and shall be provided with lifting hooks. The partition between the compartments shall be **2.5 mm** thick. The steel and iron parts which go into the assembly will undergo a complete pre-treatment and anticorrosive coat before a final coat of approved shade. To prevent the enclosure from rusting / corrosion welding should be avoided.

Doors shall be provided with pad locking arrangement. Internal lighting with door operated switch shall be provided for each compartment separately and safety notices shall be provided.

All enclosures / metal frames of package substation, HV switchgear, transformer, LT switchgear and capacitor panel are to be connected to the earth system. Continuity of the earth system shall be ensured taking into account the thermal and mechanical stress caused by the current it may have to carry. Highest degree of protection to equipment and persons shall be provided. Labels for warning and operating instructions etc. shall be provided.

All equipment and material shall be designed, manufactured and tested in accordance with latest IEC Standards. The high / low voltage prefabricated package substation shall comply with and tested as per IEC 61330/62271-202

The switchgear components shall be capable of withstanding mechanical and thermal stress of short circuit without any damages or deterioration of materials.

For continuous operation of specified ratings temperature rise of various switchgear components shall be limited to permissible values stipulated in the relevant standards/codes and this specification.

Earthing arrangement shall be provided for earthing of each cable, glands, neutral bus bar, chassis & framework of the cubicle with separate earthing terminals at two ends. Earthing Strip shall be of **hot dip Galvanized of size 50mmx6mm for Body & Neutral** protected against corrosion and readily accessible. The strip shall be connected to earthing terminals with Stainless Steel nut – bolts. **Separate Earthing for Body and Neutral shall be provided (Two each)**

The Package Substation Unit will comprise of the following major parts.

- a) Incoming HT cable: -Provision for entry of 2Runs of 3CX 185Sqmm.XLPE cable.
- b) SF6 encapsulated VCB for primary control of Transformer with over current,

short circuit and earth leakage protection.

- c) Outdoor type Double wound copper dry type Resin Cast transformer
- d) HT side of transformer to HT switchgear shall be connected with 11 kV cable of size suitable for short circuit current.
- e) Switchboard with ACBs on LT side of Transformer
- f) Weather proof sheet steel enclosure with skid base, provision for lifting arrangement.
- g) Measuring instruments with CTs & PTs.
- h) Frame earthing arrangement, outgoing cable termination arrangement, indicating devices etc.
- i) LT side of transformer shall be connected with LT switchgear with suitably rated aluminium bus bar suitable for short circuit current.
- j) Enclosure shall be IP: 23 for transformer compartment and IP: 54 for HT and LT switchgear compartments.
- k) To avoid entry of rodent in the transformer compartment, stainless steel mesh shall be provided from inner side of louvers.
- l) Adequate ventilation shall be provided.
- m) Current transformers shall be of dry type.
- n) CSS enclosure shall be type tested for 21 kA/ 1 Sec.

#### **4.1 HT Panel /Switchgear**

HT panel shall be modular design, panel type suitable for mounting on a common under base with SF6 encapsulated Vacuum circuit breaker, suitable cable entry box arrangement for XLPE cable. Necessary control Protection and metering circuits are completely assembled, wired and enclosed in a weather and dust proof cubicle. The equipment shall be suitable for outdoor installation in highly humid area.

The HT Panel shall be the integral part of the Outdoor Package Substation Unit and shall be sheet steel enclosed, dust and vermin proof, suitable for outdoor use. This shall be suitable to receive power at 3.3 kV, 50 Hz, 3 phase AC and shall be complete in all respects with all equipment fittings and accessories for efficient and trouble free operation.

- a) 3.3kV, 630A SF6 encapsulated VCB with self-tripping mechanism with numerical relay with IDMT, over current, earth fault and Instantaneous protection including TVM. Self-Powered Relay, Ashida-make is also acceptable for use in RMU for O/C & E/F protection having Modbus Communication over RS 485 port.
- b) 3.3kV  $\sqrt{3}/110/\sqrt{3}$  V PT of suitable VA along with HRC Fuses.
- c) 03Nos. 630A load Break switches / Isolator shall be provided for ring main system (one for incomer and one for outgoing).

- d) 3.3kV CTs of suitable ratio with suitable VA burden and accuracy class 1.0 for metering, 5P10 for protection conforming to IEC 60185.
- e) Incoming cable entry box shall be provided for the required cable entry.
- f) System rated voltage 3.3 kV
- g) System maximum voltage 3.6 kV
- h) Frequency 50Hz
- i) Insulation level
- i) 1.2/50 microsecond Impulse withstand voltage 40 kV peak
- ii) One minute power frequency withstand voltage 10 kV rms
- j) Rated current
- i) Continuous
- Bus bar 630 A
- Incoming circuit breaker 630 A
- ii) Short time current for 3 seconds 21 kA rms
- k) Circuit breaker
- i) Quantity One
- ii) Rated breaking capacity 21 kA / 3 Sec. Symmetrical.
- iii) Rated making capacity 52.5 kA
- iv) Total breaking time 7 cycles maximum
- v) Operating sequence As per IS/IEC
- l) Potential transformers
- i) Quantity One on each feeder
- ii) Voltage ratio  $3300/\sqrt{3} : 110/\sqrt{3}$
- iii) Reference Standard As per IS- 3156

iv)	Over voltage factor	As per IS- 3156
v)	Accuracy class	1.0
vi)	Insulation Level	40 kV Peak / 10 KV rms
vii)	Voltage Factor	1:2
viii)	Rated Burden	50 VA
m)	Current Transformer	
i)	For Relay	5P10/2.5 VA (Min)
ii)	For Metering	2.5VA, Class-0.5
iii)	Insulation Level	40kV Peak / 10 KV rms
iv)	Insulation Class	F
v)	Reference Standards	IS:2705
vi)	Ratio	50/1/1A

The panel shall be provided with two earthing terminal , necessary inter-connection, control wiring and shall be complete with finishing paint etc. & conform to relevant IS.

#### 4.2 Transformer

One No. of specified rating, double wound dry type **Resin Cast** transformer complete with all fittings and accessories. The input to the Transformer for specified kV shall be by means of **Three Core 1 run of 95Sq.mm Copper, unarmoured, rubber cable) with** end terminations (heat shrinkable) and output of the Transformer for specified kV to the LT panel shall be by **4 Nos. 800A Silver Plated Copper bus bar (P+N)**. A common underbase on which the above HT cubicle, Transformer and LT panel are assembled and inter connection made as mentioned above. The underbase shall be provided with steel base and fitted with lifting and haulage lugs.

The equipment covered by this specification shall, unless otherwise stated to be designed, constructed and tested in accordance with latest revisions of relevant Indian standards / IEC publications.

IS 1271	-	Classification of Insulating Materials.
IS 2026	-	Power transformers (part I - V)
IS 2099	-	Bushing for alternating voltages above 1000 V
IS 2705	-	Current transformers
IS 3202	-	Code of practice for climate proofing
IS 3639	-	Power transformer fittings and accessories
IS 4257	-	Porcelain bushings for transformers
IS 11171	-	Dry type Transformer

- IS 8478 - Application guide for tap-changers  
IS 10028 - Code of practice for selection, installation and maintenance of transformers.

The transformer shall be dry type Resin Cast only.

The transformer shall be suitable for operation at full rated power on all tapings without exceeding the applicable temperature rise.

It shall be possible to operate the transformer satisfactorily, with the loading guide specified in IS-6600. There shall be no limitations imposed by bushings, tap changers, auxiliary equipment to meet this requirement.

The transformer shall be designed to be capable of with-standing, without injury, the thermal and mechanical effects of short-circuits between phases or between phase and earth at the terminals of any winding with full voltage applied across the other winding for periods given in relevant standards. There shall be no limitations imposed by any part/component of the transformer/off load tap links to meet the short circuit level Specified.

The transformer shall be designed for minimum no-load and load losses within the economic limit and shall be able to have minimum loss at the rated load condition.

All electrical connections and contacts shall be of ample cross sections for carrying the rated current without excessive heating.

The transformer shall be capable of continuous operation at full load rating.

The transformer shall be dry type Resin Cast, AN cooled suitable for Outdoor Package Substation Unit application.

The core-clamping frame shall be provided with lifting eyes having ample strength to lift the complete core and winding assembly.

Off circuit tapings shall be provided on the HV windings. Tap changing is done by means of off-circuit links accessible through openings provided.

The lifting lugs shall be provided. A winding temperature scanner shall be provided and shall be actuated by means of resistance temperature detectors embedded in LV windings of all three phases. It shall have alarm and trip contacts at a specified temperature.

The transformer shall be installed in the transformer compartment of Outdoor Package Substation Unit having IP: 23 protection class.

The winding insulation shall be of Class 'F' and temperature rise limit to Class B i.e. 130 deg. C

Windings shall be of electrolytic copper conductors (circular in shape) of high conductivity and 99.9% purity. Windings shall be designed to withstand the specified thermal and dynamic short circuit stresses. The windings shall be duly sectionalised. Accessible joints brazed or welded and finished smooth shall connect similar sections.



No corona discharge shall result on the winding upon testing the transformer for induced voltage test as specified in IS.

The end turns of the high voltage windings shall have reinforced insulation to take care of the voltage surges likely to occur during switching or any other abnormal condition.

The high voltage and low voltage winding are shall be made of copper Conductors.

Output in kVA	:	500 kVA double copper wound.
Rated No load voltage ratio	:	3.3kV/433Volts.
No. of phase	:	03
Rated frequency	:	50 Hz
Connections	:	Primary – Delta Secondary – Star with Neutral
Vector Group	:	DYn11
Tapings on HV Side	:	±5% in steps of 2.5%
Type of Tap changer	:	Off circuit tap links on HV side.
Cooling	:	Naturally cooled (AN)
Termination	:	HT Side - Suitable for cable LT Side - Suitable for Bus bar
Fittings	:	2Nos. earthing terminals, rating & diagram plate, winding temperature scanner.
Temp. Rise winding over ambient temp	:	80°C
Insulation Class	:	F
Percentage Impedance	:	5%

**Transformer losses:**

The transformer shall be so designed it should have losses as per IS and type test reports shall be submitted by the contractor.

**4.3 LT Panel /Switchgear**

LT switchgear panel shall complete in all respects with all equipment fittings and accessories including internal wiring for efficient and trouble free operation as required.

Air Circuit Breakers (ACB) shall be with fault level of 50 kA for 1 Sec., copper bus bar, spring charging operating mechanism, microprocessor based overload, short

circuit and earth fault protection releases with wide setting range, LED displays, alarm display for microprocessor fault, interlocking, etc. complete as required.

Moulded case circuit breakers shall be fixed type, microprocessor release having adjustable O/L & S/C settings with trip-free, manually closing mechanism, accommodated in a Moulded housing of robust and vermin-proof construction matching with switchboards. All MCCBs shall be designed and tested to IS - 13947 Part II to breakers shall be provided with an inverse time delay electronic over current trip device. The trip device shall be direct acting

The LT Panel shall be the integral part of the Package substation Unit and suitable for outdoor use. This shall be suitable to receive power at 433 V, 50 c/s, 3 phase AC and restricted earth neutral system.

### **Incomer**

1 No. 800A, 4P, 50 kA for 1sec., EDO, ACB with microprocessor based over current, short circuit and earth fault release, MFM, indicating lamps and ON/OFF push buttons.

### **Outgoing**

a) 250A MCCB, TPN, 35 kA for 1 sec.-04Nos.

b) 400A MCCB, TPN, 35 kA for 1 sec.-04Nos.

All outgoing feeders shall have phase indicating led lamps and *Multifunction Meter*.

### **4.4 150 kVAR APFC Capacitor Panel:**

The capacitor panel shall be an integral part of package substation. 250A, Incommer MCCB,35KA for 1sec. To be used for APFC.

The Capacitors control panel shall be of automatic switching type with facilities for manual control. Single Phase CT sensing APFC relay as per approved make list of tender. The switch units, contactors, etc. shall be selected to suit Capacitor ratings. The panel shall be capable of switching ON/ switching OFF capacitor bank in stages with on delay timer. The APFC relay provided in the panel shall be three phase sensing power factor on 433V bus and there upon switch ON/switch OFF.

The panel shall be freestanding and provided with separate compartments for incoming outgoing control switches and the capacitor banks. A continuous earth bar shall be provided to which the individual capacitor banks shall be connected. All main bus bar connection shall be of Copper. Panel shall be painted with Epoxy primer and Epoxy paint after an accepted metal treatment process.

The switching of capacitor bank by a re-strike free breaker shall not cause first peak of transient over voltage not to exceed  $2\sqrt{2}$  times the applied voltage (rms) for maximum duration of 1/2 cycle and shall be suitable for performing 5000 switching operation/year under these conditions.

LT capacitor banks shall be provided on the LT buses in proposed sub-station to improve the power factor from 0.8 to 0.98 and above lagging.

LT Capacitor banks of suitable rating shall be provided at incoming side of incomer breakers for LT panel to compensate the reactive load of transformers and to maintain power factor above 0.98 even when no motor is in operation. Contractor shall furnish the calculation for suitability of capacitor bank.

The rated voltage of 3 phase capacitor bank shall be 433 V (Phase to Phase) and 230 V (Phase to Ground). Capacitors shall be Self Healing MPP Heavy Duty type confirming to IEC 60831.

Capacitors banks are to be built up from individual single phase units suitably interconnected and housed in a metal enclosure to form a single 3 phase bank Capacitor. Capacitors having low Loss/kVAR shall be preferred.

Capacitors shall be suitable for operation at power frequency voltage level and for power frequency plus harmonics such that current does not exceed the values specified in clause 6.2 Annex C & E of IS 13585.

Capacitor modules shall be provided with in-built fuses to isolate individual faulty units from the total bank.

Capacitors shall be provided with directly connected discharge device suitable to reduce the residual voltage from crest value of the rated voltage to 50 volts or less within 1 min after the same is disconnected from the supply.

For enabling the metal container to carry fault current in the event of breakdown of container, this container shall be provided with a connection capable of carrying the fault current.

Relay shall be suitable for operation at low load and current sensitivity shall be equivalent to 1%.

**The capacitor rating, shall be finalized during detail engineering, it shall provide for a gradual increase in kVAR ratings in steps.**

Type tests certificate for similar type & rating of capacitors in accordance with IS 13585 shall be submitted by the successful Bidder.

The routine and acceptance test shall also be performed as per the relevant standards

#### **4.5 Moulded Case Circuit Breaker**

The Moulded case circuit breaker (MCCB) shall conform to latest IEC-60 947-2/ IS13947- 2. The circuit breaker shall comply with the isolation function requirement of IEC 60 947-2 section 7.1.2 to marked as suitable for isolation/ disconnection to facilitate safety of operating personnel while the breaker is in use.

Moulded case circuit breakers shall be fixed type, microprocessor release having adjustable O/L & S/C settings with trip-free, manually closing mechanism, accommodated in a Moulded housing of robust and vermin-proof construction matching with switchboards. All MCCBs shall be designed and tested to IS - 13947 Part II to breakers shall be provided with an inverse time delay electronic over current trip device. The trip device shall be direct acting.

The MCCB shall have rated operating voltage = 690V with min. Insulation voltage = 750V and rated impulse withstand voltage = 8 kV.

MCCB shall be provided with Class II insulation between front cover & internal power circuits to avoid any accidental contact with live current carrying path with the front cover open.

The tripping devices shall be ambient temperature compensated type. The insulating case and cover shall be made of high strength heat resistant and flame retardant thermosetting insulating material.

They shall have line load reversibility. 3-phase breakers shall be designed to break all the poles simultaneously and they shall have a single mechanism.

They shall have auxiliaries and accessories whenever required for signalling, interlocking, shunt trips, under voltage release, castle lock, etc.

All the circuit breakers used shall have guaranteed breaking capacities sufficient for the maximum short circuit duties that could possibly be imposed on the different breakers. The MCCBs fixed in main switchboard shall have breaking capacity of 35KA for 1sec. **All Spreaders shall be made of silver plated copper.**

MCCB shall have  $I_{cs}=I_{cu}$  for the entire range as per BOQ and rated at ambient 50°C.

MCCB's shall be used with terminal spreaders, phase barrier and all terminals shall be shrouded to avoid direct contact.

#### **4.6 Miniature Circuit Breakers (MCB)**

MCBs shall be hand operated, air break, quick make, quick break type conforming to applicable standards.

MCB shall be provided with overload/short-circuit protective device for protection under overload and short-circuit conditions. The minimum breaking capacity of MCBs shall be 10 kA r.m.s. at 415V AC. It shall comply to Class III energy limiting class. MCB shall comply with IS – 8828 – 1996/IEC 898. MCB shall have minimum power loss (watts) per pole defined as per IS/IEC and the manufacturer shall publish the values.

The MCB housing shall be heat resistant and heavy a high impact strength. The terminal shall be protected against finger contact to IP 20 degree of protection.

#### **4.7 Measuring Instruments, Metering & Protection**

##### **4.7.1 General**

Direct reading electrical instruments shall be in conformity with IS-1248. The accuracy of all measuring instruments shall be as specified in the BOQ. The errors due to variations in temperature shall be limited to a minimum. The meter shall be suitable for continuous operation between (-) 10 degree Centigrade to (+) 50 degree Centigrade. All meters shall be of flush mounting type of 96mm square pattern. The meter shall be enclosed in a dust tight housing. The housing shall be of steel or phenolic mould. The design and manufacture of the meters shall ensure the prevention of fogging of instruments glass. Instruments meters shall be sealed in such a way that

access to the measuring element and to the accessories within the case shall not be possible without removal of the seal.

The specifications herein after laid down shall also cover all the meters, instrument and protective devices required for the electrical work.

#### **4.7.2 Multi-Function Meter**

It shall be suitable for measuring, saving and supervision of electrical parameters in low and medium voltage mains viz. kVA, kW, I, V, Pf, f, KWh, MD etc.

The Meter shall have following Features.

- Clear LCD Display
- Visualization of all the three phase grid parameters along with Min / Max/ Measured/average.
- The meter shall have communication port of RS 485 and shall be compatible with SCADA System.
- It shall come along with the software for data acquisition.
- It shall be compatible with PLC.
- The accuracy class shall not be more than 0.5%.

#### **4.7.3 Current Transformers**

Current transformers shall be in conformity with IS: 2705 (part I, II & III) in all respects. All current transformers used for medium voltage applications shall be rated for 1kV. Current transformers shall have rated primary current, rated burden and class of accuracy as required. However, the rated secondary current shall be 5A unless otherwise specified.

Current transformers shall be capable of withstanding without damage, magnetic and thermal stresses due to short circuit fault of the system. Terminals of the current transformers shall be marked permanently for easy identification of poles. Separate CT shall be provided for measuring instruments and protection relays. Each C.T. shall be provided with rating plate.

Current transformers shall be mounted such that they are easily accessible for inspection, maintenance and replacement. The wiring for CT's shall be done with minimum 2.5 sq. mm copper wires with proper termination lugs and wiring shall be bunched with cable straps and fixed to the panel structure in a neat manner.

#### **4.8 Miscellaneous**

Control switches shall be of the heavy duty rotary type with escutcheon plates clearly marked to show the operating position. They shall be semi-flush mounting with only the front plate and operating handle projecting.

Indicating lamps shall be of the LED type.

Push buttons shall be of the momentary contact, push to actuate type fitted with self-

reset contacts & provided with integral escutcheon plates marked with its functions.

#### **4.9 Cable Terminations**

Cable entries and terminals shall be provided in the Distribution Boards to suit the number, type and size of aluminium conductor power cables and copper conductor control cable specified.

Provision shall be made for top or bottom entry/exit of cables as required. Generous size of cabling chambers shall be provided, with the position of cable gland and terminals such that cables can be easily and safely terminated.

Barriers or shrouds shall be provided to permit safe working at the terminals of one circuit without accidentally touching that of another live circuit.

Cable risers shall be adequately supported to withstand the effects of rated short circuit currents without damage and without causing secondary faults.

#### **4.10 Push Buttons**

Push buttons shall be:

- of the momentary contact, push to actuate type rated to carry 10A at 240V AC and 1A (inductive breaking) at 220V DC.
- fitted with self-reset, 2NO and 2NC contacts.
- provided with integral escutcheon plates marked with its function.

'Start', 'Open', 'Close' push buttons shall be green in colour.

'Stop' push buttons shall be red in colour.

All other push buttons shall be black in colour.

Emergency stop' push buttons shall be of the lockable in the pushed position type and shall be shrouded to prevent accidental operation. Key shall not be required for the operation of the push button.

#### **4.11 Internal wiring**

Wiring inside the switchgear/panel shall be carried out with 1.1 kV grade, zero halogen FR stranded conductor wires. Control ckt for LV shall be 2.5 sq mm for CT Ckt , & 4 sq mm for earthing.

Engraved identification ferrules, marked to correspond with the wiring diagrams shall be fitted to each wire. Ferrules shall be of yellow colour with black lettering.

Wires forming part of a tripping circuit of circuit breaker shall be provided with an additional red ferrule marked 'T'.

Spare auxiliary contacts of all equipment forming part of the switchgear shall be wired up to the terminal blocks.

Spare and unassigned modules shall be complete with internal wiring.

Wiring shall be terminated on screw less terminal blocks upto 4 sq. mm size.

Not more than two connections shall be made on any one terminal.

#### **4.12 Terminal Blocks**

Terminals for circuits with voltage exceeding 125 V shall be shrouded. Terminal blocks shall be grouped depending on circuit voltage. Different voltage groups of terminal blocks shall be segregated.

Terminal blocks shall be adequately rated to carry the current of the associated circuit. Minimum rating of the terminal block is 10A.

Terminals shall be numbered for identification.

Terminal blocks shall be arranged with at least 100mm clearance between two sets of terminal blocks.

Screw less, cage clamp type terminal blocks shall be used for cable sizes upto 6 sq. mm. Bus Bar type terminal blocks shall be used for cables above 6 sq. mm.

Terminals for CT secondary leads shall be disconnecting link type and shall have provision for shorting.

#### **4.13 Earthing**

Each Panel shall be provided with an earth bus bar running along the entire length of the board. Material and size of the earth bus bar shall be as per IS. At either end of the earth bus, one (1) clamp type terminal with nuts, bolts and washers shall be provided for bolting the earthing conductor of size and material indicated in data sheets. In case the earth bus is provided near top of the switchgear, one down comer at either end shall be provided for connection to the earthing conductor.

Earth bus bars shall be supported at suitable intervals.

Positive connection between all the frames of equipment mounted in the switchboard and earth bus bar shall be provided by using insulated copper wires/bare bus bars of cross section equal to that of the bus bar, or equal to half the size of circuit load current carrying conductor, whichever is smaller.

All instrument and relay cases shall be connected to the earth bus bar using 650 V grade, 2.5 sq. mm stranded, copper ZHFR, earthing conductor.

#### **4.14 Labels**

Labels shall be anodised aluminium with white engraving on black background shall be provided for each incoming and outgoing feeder of Distribution Boards. Labels shall be properly secured with fasteners.

#### **4.15 Test At Manufactures Work**

Type test certificate for similar type & Rating of Outdoor Package Substation Unit manufactured as per IEC 61330/62271-202 be submitted by the successful tenderer.

The Routine and Field test shall be arranged by the Contractor and carried out on Outdoor Package Substation as per latest relevant IEC / IS Standards in presence of **Third Party Inspection Agency, appointed by HDC, at the manufacturer's works & at site respectively. The cost of the TPI Agency would be borne by HDC.** The Certified copies of test certificates shall be submitted before despatch.

#### **4.16 Testing and Commissioning**

Commissioning checks and tests as per IS/BIS shall be included all wiring checks and checking up of connections. Primary injection tests for the relays adjustment/ setting shall be done before commissioning in addition to routine megger test. Checks and tests shall include the following.

- a) Operation checks and lubrication of all moving parts.
- b) Interlocking function check.
- c) Continuity checks of wires, fuses etc. as required.
- d) Insulation test: Testing shall be as per IS specification.
- e) Trip tests & protection gear test.

#### **4.17 Foundation**

RCC foundation as per attached drgs shall be executed at site. Outdoor Package Sub-station shall be placed at least +800mm above road level.

### **5 H.T. & L.T. CABLES**

#### **5.1 Scope**

Supply, laying, inspection, testing, commissioning and making terminations of 11 kV and 1.1 kV grade XLPE insulated power cables.

#### **5.2 Codes & Standards**

The design, construction, manufacture and performance of cables shall comply with all currently applicable statutes, regulations and safety codes of the locality where cables shall be installed. Nothing in this specification shall be construed to relieve the successful BIDDER of his responsibility.

All the cables shall conform to the latest applicable IS/IEC standards.

#### **5.3 Power Cable**

Power cables should be multicore earthed 11kV grade aluminium stranded conductor colour coded, extruded XLPE insulated, extruded semi-conducting screened over each core and insulation, extruded inner sheathed, common extruded inner sheathed for multi core cable, galvanised steel strip armoured and overall extruded black sheath conforming to IS- 7098 Part I & Part II. Armouring of multicore cable shall be of single layer, galvanised steel round wire or flat strip. Wire armour should be used for cable dia. over inner sheath upto 13 mm and strip armour to be used for higher dia. The Cables shall be suitably designed for variation in power supply as follows:

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



The voltage variation  $\pm 10\%$

Freq. variation  $\pm 5\%$

Following cable sizes shall be supplied by the bidder:

- i. ) 3.5Core, 150Sqmm LT Cable, 1.1kV grade, XLPE U.G. Alu. Cable, PVC inner sheathed and PVC ST2 type outer sheathed, armoured, FR cables.
- ii. ) 3.5Core, 25Sqmm LT Cable, 1.1kV grade, XLPE U.G. Alu. Cable, PVC inner sheathed and PVC ST2 type outer sheathed, armoured, FR cables.
- iii. ) 3Core, 185Sqmm HT Cable, 11kV (E) grade, XLPE U.G. Alu. Screened Cable, PVC inner sheathed and PVC ST2 type outer sheathed, armoured, FR cables.
- iv. ) 3.5Core, 240Sqmm LT Cable, 1.1kV grade, XLPE U.G. Alu. Cable, PVC inner sheathed and PVC ST2 type outer sheathed, armoured, FR cables.

#### 5.4 **Quality of Cables**

Each cable length shall have relevant ISI certification mark as stipulated by Bureau of Indian Standards.

#### 5.5 **Laying of Cables**

For laying cables along building steel structures and technological structures, the cable shall be taken by clamping with **Aluminium** saddles screwed to the GI flats welded to the structure. The flats are of hot dip galvanised after fabrication.

For laying cables along concrete walls, ceilings etc. the cables shall be taken by clamping with **Aluminium** saddles screwed to the **hot dip GI** flat welded on to the inserts. Where inserts are not available, the saddles shall be directly fixed in the walls using metallic anchor fasteners and **GI** flat spacers of minimum 6 mm thick.

The **Aluminium** saddles shall be placed at an interval of not less than 500 mm both for horizontal and vertical runs. However, at the bends, it shall be placed within 300 mm and where terminating to the equipment/junction box the cable shall be clamped immediately before such termination.

Cable Net Work shall include Power Cables, which shall be laid in buried trenches/ cable trays / through G.I. Pipes & Hume Pipes, rising main etc. whichever is applicable.

Cable routing shall be checked in the field to avoid interference with structures, heat sources, drains, piping etc. as far as possible and minor adjustments shall be done to suit the field conditions, wherever deemed necessary without any extra cost.

The HT cables, while laying, will have to be separated from existing HT, LT, Telecommunication, OFC Cables by adequate spacing or running through independent pipes, trenches or cable trays, as applicable.

All cable routes shall be carefully measured and cables cut to the required lengths leaving sufficient lengths for the final connections of the cables to the terminal of the equipment.

The various cable lengths cut-off from the cable reels shall be carefully selected to prevent undue wastage of cables. The quantity indicated in the Bill of Quantity is only

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approximate. The Contractor shall ascertain the exact requirement of cable for a particular feeder by measuring at site and avoiding interference with structure, foundation, pipelines or any other works as far as possible. Before starting Cable Laying, Cable Drum Schedule shall be prepared by contractor and get that approved by competent authority.

Cable, as far as possible, shall be laid in complete, uncut lengths from one termination to other. Cable shall be neatly arranged in the trenches/ trays/ pipes in such a manner so that crisscrossing is avoided and final take- off to the equipment/switch gears is facilitated.

Arrangement of cables within the trenches/ trays/ pipes shall be the responsibility of the contractor.

Removal of concrete covers for purposes of cable laying and reinstalling them in their proper positions after the cables are laid shall be done by the contractor at no extra cost. Cable shall be handled carefully during installation to prevent mechanical injury to the cables. During laying of cables, Cable Drum Lifting Jacks, sufficient numbers of Cable Rollers and other materials etc. as necessary must be used to avoid any mechanical injury to the cables. Directly buried cable shall be laid underground in Cable Trenches duly excavated by the contractor as shown in the **enclosed Drawing No. SK- 334**.

The width of the trench shall vary depending upon the number of cables and diameter of each cable. Width of the Cable Trench should be such that all cables should be correctly spaced and arranged. The cables shall be laid in trenches as shown in the enclosed sketch. Before cables are placed, the bottom of the trench shall be leveled and filled with a layer of silver sand as shown in the Drawing No. SK- 334. This sand shall be leveled and the cables shall be laid over it. Bricks are to be placed at both sides of the cable. Then the cable inside the brick walls to be covered with sand up to the height of walls and sand shall be pressed lightly .A protective covering of Bricks shall be placed on top of protective Bricks placed at both sides of Cable. The remainder of the trench shall then be back filled with soil rammed and leveled. After laying of the cables in the trench and before placement of protective covering by brick, every cable shall be given an insulation test in presence of site engineer/ authorized representative. Also, after back filling the trench with soil, rammed and leveled, insulation test of the cable shall be carried out in presence of Site Engineer/ Authorized representative.

All wall openings/Pipe Sleeves shall be effectively sealed after installation of cables to avoid seepage of water inside buildings/lined trench. At road/drain/pavements crossing, suitable sizes of G.I. Pipes are to be used. After the cables are installed and all testing is complete, the conduit/pipe sleeve ends shall be plugged with a suitable weatherproof plastic compound/ PUTTI, for sealing purpose. The cost of the same shall be deemed to have been included in the installation of cable laying through pipe sleeves/conduits and no separate payment shall be made. When cables pass through foundation walls, or other underground structures, if necessary, ducts or opening shall have to be provided by the contractor.

However, shall it become necessary to cut holes in the existing foundations or structures, the contractor shall determine their locations and obtain approval from competent authority before cutting is done. Cutting, if necessary and mending good

of any cut portion should be done by contractor without any extra cost. At Road Crossing and other places where cables enter pipe sleeves, adequate bed of sand shall be given so that the cables do not stack and get damaged by pipe ends. Drum number of each cable from which it is taken shall be recorded against the cable number in the cable schedule. All G.I. Pipes shall be laid as per site requirements. The open ends of the pipes shall be suitably plugged after they are laid in final position. Laying of the cable will be as per the enclosed Drawing No. SK- 334. The contractor will have to submit the detailed cable route diagram, with detailing of the Hume Pipes & G.I. Pipes used, position of the straight through cable joints etc. for checking at our end and subsequent approval of the same. As built drawing (in triplicate) of the above cable route will have to be submitted after completion of the above work.

#### **MEASUREMENT:**

Cable length should be measured jointly prior to giving clearance for earth back filling etc. Distance between Socket of one end and Socket of other end of the laid cable to be considered for payment against both supply & laying of cable.

#### **5.5.1 Laying of Cables in Exposed/Embedded GI Pipe/Hume pipe for Road Crossing, Railway Crossing, Drains, Culverts or any similar concrete structure etc**

GI Pipe/Hume pipe for drawing cables in plant buildings shall be of Heavy Duty, galvanised, electric resistance welded, screwed type conforming to IS: 1239 ( Part-I). GI Pipe/Hume pipe of the following sizes shall be used:

- a) 150 mm nominal bore GI pipe
- b) 150 mm dia. Heavy-duty NP-4 Hume pipe.

For installation of cables in GI Pipe /Hume pipe. Complete system shall be installed first without cables but having suitable pull wires laid in the pipes to facilitate cable pulling.

Insulated type end bushings shall be used where conductors enter or leave GI pipe. Ends of GI pipe shall be cut square and the threads out in the field shall have the same effective length and the same dimensions and taper as specified for factory out threads. Ends of pipe shall be reamed to remove burrs and sharp edge after threads are cut.

Exposed GI pipes shall run parallel or perpendicular to column lines or building lines so as to match with the architectural arrangement of the building. Concealed GI pipes shall run in direct lines with minimum bends.

Laying of Reinforced Concrete Pipe and Galvanized Mild Steel Tubes should be done wherever necessary, such as at Road Crossing, Railway Crossing, Drains, Culverts or any similar concrete structure etc. The scope includes cutting of road, Railway Crossing, Excavating of Trenches, etc. including mending good work. The depth of laying of the pipes should have to be matched with the underground cable trench, as far as possible and practicable. Making jointing between collars and pipes, with cement mortar (1 cement: 2 medium sand) and cutting the Reinforced Concrete Pipe to the required length, if necessary, to be done by the contractor at their own cost and arrangement. Cutting of Galvanized Pipe to required length and threading, bending, jointing by Socket as required, supply and fixing of support clamps/ brackets should be under the scope of contractor. Re-filling of the trench after laying the reinforced concrete pipes and galvanized mild steel tubes are also to be done by the contractor. Rates are to be quoted accordingly.

### 5.5.2 Depth of laying

Sl. No.	Cable	Laying Type	Depth of Laying (Average)
1.	LT Cable	Open cut excavation with brick protection.	850-1000mm
		Boring through GI pipe/HDPE pipe.	2000mm
		Open cut excavation through Hume / GI pipe.	1000mm
		Through existing RCC trench / Hume pipe / GI Pipe.	As per available depth.
2.	HT Cable	Open cut excavation with brick protection.	1200mm
		Boring through GI pipe/HDPE pipe.	2000mm
		Open cut excavation through Hume / GI pipe.	1200mm
		Through existing RCC trench / Hume pipe / GI Pipe.	As per available depth.

**Note: Road level to be considered as reference level.**

**Above depths are indicative only. Based on site condition, cables may be laid at higher depths based on site clearance by HDC, SMP, Kolkata.**

### 5.6 Bricks

Crushing strength, efflorescence shall conform to class designation 10 (as per IS 1077, 1986) and as per the specification, given below:

- i) The brick shall have clear ringing sound.
- ii) The average size of the bricks shall be in the range of 250 mm ( $\pm 4$  mm) x 125 mm ( $\pm 2$ mm) x 75 mm ( $\pm 2$  mm).

### 5.7 Tray Specification

Pre-fabricated perforated type trays made of FRP shall be used for laying cables. The trays shall have vertical edge of height not less than 50 mm on both sides. The control/power cable shall be clamped by means of suitable PVC straps both for horizontal to vertical direction and vice-versa and further these straps shall be clamped with Aluminium clamp with stainless steel bolts for every one meter.

Insert plates of suitable sizes shall be fixed in trench / wall for fixing of cable trays, at an interval of 1000 mm apart in horizontal run and 500 mm apart in vertical run and also at each bend /turning.

Suitable covers shall be provided on cable trays to be fixed outside trenches.

### 5.8 Cable Termination

Termination and jointing of aluminium conductor power cables shall be by means of compression method using compression type copper lugs. Copper conductor control cables shall be terminated directly into screwed type terminals provided in the equipment. Wherever control cables are to be terminated by means of terminal lugs, the same shall be of tinned copper compression type.

The End termination for use on the cables shall be suitable for the type of cables offered.

The accessories shall be supplied in kit form and each component of the kit shall carry manufacturer's mark of origin.

The kit shall include all stress grading, insulating and sealing materials apart from conductor fittings and consumable items. The instruction pamphlet shall also be included in each kit.

The contents of the kits shall be suitable for storage without deterioration under the climatic conditions given in the specification with shelf life exceeding 5 yrs.

The termination kit shall be suitable for termination of cables to indoor switchgear.

<b>Cable Accessories</b>		<b>11 kV Cable</b>		<b>LT Cables</b>
Type	i)	Heat Shrinkable Termination	i)	Suitable double compression Glands & Lugs.

#### 5.9 Cable Jointing

**All Cables shall be of Single length only. No Joints are allowed.** However, in extreme cases based on approval from competent authority, straight through joint may be taken up by the contractor.

Additional length (Loop) of 5mtrs. (approx.) cable should be kept at each end of the cables near the straight through cable joints.

It is required to measure the insulation resistances of the cables before and after straight through cable jointing. This scope includes supply of all required materials including complete straight through cable jointing kits, with ferrules and all other accessories.

**Heat Shrinkable type straight through Cable Jointing Kits**, suitable for XLPE insulated 11 kV (Earth) grade HT cables, are to be used.

#### 5.10 Cable Tags and route markers

All cables will be identified close to their termination points by cable nos. Cable numbers will be punched on Aluminium strip/ PVC Strip {2mm. thick (approx.)} securely fastened to the cable and wrapped around it. Alternatively, Cable Tags shall be circular in construction to which cable number can be conveniently punched.

Cable designations are to be punched with letter/number punches and the tags are to be tied to cables with piano wires of approved quality and size. Tags shall be tied inside the panels beyond the glanding as well as below the glands at cable entries. Along trays, tags are to be tied at all bends.

Underground cable shall be provided with Identification RCC Route markers at every 30 Mtrs. distance if the continuous length is more than 50 Mtrs. of its underground length, in case of multiple runs of HT and LT cables are laid through same trench,

Aluminium strip/ PVC Cable tags shall be provided. At least one tag at each end before the cable enters the ground will have to be provided. Identification RCC Route markers shall be placed at location of changes in the direction of cables and at Cable Joint Locations.

#### 5.11 **Packing and Markings**

The cable shall be wound on a drum conforming to relevant BIS standard and packed. The ends of the cable shall be sealed by means of non-hygroscopic sealing material.

#### **Cables to be supplied in returnable steel drums only.**

The cable drum shall carry the following information stencilled on the drum:

- i) Manufacturer's Name and Trademark
- ii) Type of cable and voltage grade.
- iii) No. of cores
- iv) Nominal cross-sectional areas of conductor
- v) Cable code
- vi) Length of cable on drum
- vii) No. of lengths on the drum if more than one
- viii) Direction of rotation of Drum
- ix) Gross weight
- x) Weight of Drum with Ballens (if any)
- xi) Weight of cable
- xii) Reference of any Indian standard
- xiii). ISI Marking on the drum
- xiv) Year of Manufacturing

#### 5.12 **Cable Schedules**

The Contractor shall furnish the Cable Schedules (including Control Cables) indicating type, Size, Amps, length (from & to), Runs, Impedance, Terminations, etc.

#### 5.13 **Tests & Test Reports**

Type test certificate for similar type & Rating of Cables to be submitted by successful bidder.

The Routine and Acceptance tests specified in the applicable standards shall be arranged by the Contractor and carried out on **Cables** as per latest relevant IS Standards in presence of **Third Party Inspection Agency appointed by HDC at the manufacturer's works & at site respectively. The cost of the TPI Agency is borne by Port.** The Certified copies of test certificates shall be submitted before despatch.

## **6**

### **30 M High Mast**

#### 6.1.1 **Mast Design Criteria**

The mast shall be designed in such a manner that it is capable of withstanding external forces exerted by **wind speed@200 KMPH.**

### Applicable Standards

The following shall be the reference standards for manufacture and design compliance of High Mast:

Sl. No.	Code No.	Title
a)	I.S.875 (PART III) -1987	Code and Practice for wind loads.
b)	BS code of practice CP-3 chapter V part -II	Gradient of wind speed related to height above ground
c)	I.L.E.TR-7, Latest Edition	Specification For Mast /Foundation
d)	BS5649, PART-7	Structural Design
e)	BSEN 100025/100027, BS 4360 /DIN 17100	Mast Sections
f)	IS 2062.	Base plate, Top plate and Accessories
g)	BS 5135 or IS 9595	Welding
h)	BS 729 / IS 2629/ BS ISO 1461	Galvanizing
i)	BIS 10947-1984	Lighting for ports and Harbours
j)	BIS 3043-1987	Earthing

#### 6.1.2 Structure

The high mast structure shall be of continuously tapered polygonal cross section [at least 20 sided for 16 M and above]. The Mast structure should be designed for suitable wind loads as per IS 875.

#### 6.1.3 Construction

The mast sections shall be manufactured from special steel sheets conforming to BSEN 100025/100027/ DIN 17100/ BS 4360 or equivalent cut and folded to form a continuously tapered polygonal section having a single longitudinal weld by MIG welding process. The welding shall comply BS 5135 or IS 9595. Masts shall be delivered in multiple sections which shall be assembled at site by slip-stress-fit method. The minimum overlap distance shall be 1.5 times the diameter at penetration. There shall be no circumferential welding in any section. No site welding or bolted joints in the mast sections shall be allowed. The dimensions of the mast sections shall be decided based on sound and established design norms as per BS 5649 & ILE TR7.

The Base and Top plates without any laminations shall be welded to the bottom and top sections respectively. The welded joints shall be fully penetrated and developed to the strengths of the respective sections. The Base and Top plates shall be provided with supplementary gussets between the boltholes to ensure elimination of helical stress development.

Mast base section will have a lockable door of size 1400mm X 300mm for easy access to winch and power tool operations. Bottom of door shall be 600mm above the top of the base plate. The door design shall be done in accordance with relevant standard and practices and adequately reinforced for prevention against buckling.

Provisions for fixing safety wires shall be made in the bottom section.

All sections shall be hot dip galvanized as per BS EN ISO 1461. The galvanization shall

be done by single dip method for uniform thickness and better aesthetic appearance.

#### **6.1.4 Dynamic Loading**

The Mast sections should be designed based on basic wind speed data as mentioned at 10m level as per IS:875, Part-III, 1987. The structural design of the mast shall comply with BS 5649 part VII and ILE TR 7 guidelines.

The foundation design shall be made by taking into considerations the following:

1. Dynamic loading on the mast as per ILE TR 7 and IS 875 and
2. Static load of the total mast structure
3. **RCC/Pile Foundations and Soil conditions:**

The High Mast Towers along with base plate shall be erected on the concrete foundation as per enclosed drawings of Haldia Dock Complex. The firms shall furnish necessary **Pile** foundation drawing for approval based on the soil bearing capacity Test results. The foundation shall be designed to meet the soil conditions. The foundation shall have adequate bolts of adequate diameter and height for anchoring the base plate of the mast. The contractor shall ensure correct vertical and horizontal alignment of the foundation bolts while carryout the foundation works by using suitable steel template. **The height of the foundation shall be 500 mm above the nearby level of road.** **Conducting** soil bearing capacity Test for pile foundation is in the scope of the contractor.

#### **6.1.5 Raising and Lowering Mechanism**

The high-mast shall have an optimally balanced system for raising and lowering of the Luminaries and control gearboxes for regular maintenance work. The same shall be provided by means of a double drum winch **with double gear** fixed at the base, 3 wire suspension wire ropes along with compensating disc and safety wires, a specially designed 6-pulley head frame assembly. The winch mechanism shall be suitably connected to “fixed 3 phase, 415 V Electric Motor” and is operated through forward and Reverse Contactor with push button control to raise/lower the lantern carriage.

#### **6.1.6 Head Frame**

M.S. fabricated hot dip galvanized housing using IS 2062 grade steel accommodating 6 CA pulleys with stainless steel pins for the suspension wire ropes and upto 3 such smaller pulleys for the electrical cables. Pulleys are grooved suitably to ensure that the wire ropes/cables do not get dislodged from their positions while raising / lowering. Self-lubricating bearings and stainless steel shaft shall be provided for smooth and maintenance free operation throughout the mast life.

The head-frame shall be made in three compartments placed 120 degree apart for most optimum balancing of lantern carriage. Head frame shall have top canopy in tripod shape to protect the mast from entry of water / solid particles etc from the top.

Top canopy shall have provision for fixing lightning arrestor of suitable design.

#### **6.1.7 Lantern Carriage**

A fabricated hot dip galvanized lantern carriage shall be provided for mounting of luminaire arm assemblies as per design offered. The lantern carriage shall be as per **accepted manufacturer standard**. The flanges shall be jointed at site by stainless steel bolts and nuts. Inner side of the lantern carriage shall be provided with a separate guide ring with rubber padding to protect the mast surface while raising and



lowering of the lantern carriage.

#### **6.1.8 Luminaire Arm Assembly & Flood Light Fixtures**

Luminaire arm assembly shall be fabricated hot dip galvanized to be fixed on the lantern carriage for mounting of luminaries. Each arm shall be suitable for accommodating up to 2nos LED lighting luminaries. The length of the luminaire arm assembly shall be 300mm in case of integral luminaries.

#### **6.1.9 Suspension Wires**

Three-wire suspension assembly from compensating disc to the lantern carriage shall be made of 8 mm dia stainless steel wire rope as per AISI 316 or better Grade. No joints shall be allowed in any length of the wires. The ends of the wire rope shall be suitably secured in the winch block with thimbles.

The wires from compensating disc to the double drum winch shall be made of 8 mm dia stainless steel wire rope of the same grade as above.

Breaking load capacity of each wire rope shall not be less than 2100kg with a factor of safety not less than 5.0. The Manufacturer Test certificate for the rope shall be produced.

#### **6.1.10 Compensating Disc**

A separator of MS Construction hot dip galvanized having provision for fixing 3nos. suspension wires on upper deck at 120 degrees apart and provision of fixing two nos. wires from double drum winch. It will also have the provision to connect two nos. safety wires from both side of the base of the mast.

Shape/size of the compensating disc shall be designed for its free movement up to top of the mast. When the lantern carriage is at mast top, the compensating disc position shall be at door level.

Compensating Disc is mandatory as per I.L.E., TR-7. Compensating disc enables dismantling of D/D (Double Drum) winch, which is essential during the design life of the mast, by way of the safety wires.

#### **6.1.11 Double Drum Winch**

The double drum winch with double gear shall be completely self-sustaining type without the need for brake shoe, springs and clutches. The winch shall have self-lubrication mechanism by means of an oil bath. **The winch assembly shall have simultaneous and reversible operation of double drum winch with double gear.** The gear assembly shall be essentially made of phosphor bronze for optimum design life.

The gear ratio shall be 53:1 and safe working load capacity shall not be less than 750 kg. for masts of height 16m and above.

The winch drums shall be grooved to ensure perfect seat for stable and tidy rope lay with no chances of slipping of ropes. The rope termination in the winch shall be such that distortion or twisting is eliminated and at least 5 to 6 turns of rope remain on the drum even when the lantern carriage is at fully lowered position. It should be possible to operate the winch manually by a suitable handle or by an integral power tool. It shall be possible to remove the winch after dismantling it from its mounted position and re-fix it through the door opening. Type test certificate for similar type of Winch manufactured

be submitted by the successful bidder.

#### **6.1.12 Electrical Hoist Cables**

The electric cable shall be 2x 5 core x 4.0 sq.mm. round type made of strands of plain copper wires ATC conductor, EPR insulated, Cotton braided and PCP outer sheathed black cable and flame retardant to get flexibility and endurance with Rodent proof coating, core identification in accordance with VDE 0293 or equivalent.

The cable shall be highly flexible for optimum design life and the bending radius shall be not more than 60mm and VDE (or equivalent) approved for hoist applications.

Base end of the cable shall be connected with a 5 pin male *metal clad* plug, which can move easily with the cables during raising/lowering. A 5 pin *metal clad* socket shall be provided at the bottom of the mast for cable termination.

**The trailing cable to the high mast shall be rodent proof.**

#### **6.1.13 Junction Box**

Two Nos. Weather proof **junction box IP 65** made of Cast Aluminium shall be provided on the lantern carriage for connecting the luminaries, control gears and the cable. The number of ways is decided by the no. of luminaries to be connected. The connectors shall be CBT type Terminals. **20% spare ways shall be provided in JB.**

#### **6.1.14 Power Tool and Control Panel**

A suitable high powered, electrically driven and electrically controlled, portable, internally mounted power tool with manual over ride shall be provided for the raising and lowering of the lantern carriage.

The power tool mounting shall be so designed that it will not only self-supporting type but also it shall align itself perfectly with respect to the winch spindle during the operations. A handle for manual operations shall be provided as per standard practices.

Power tool shall consist of 3phase 415volts, 50c/s motor and a gear box to match winch gear ratio duly coupled with each other. It shall be of reversible speed type.

A controlling unit for rotation changes of motor with provision of torque limiter by way of using electric circuits for electrical protection shall be provided.

A cable of 4 Core x 2.5 sq.mm. copper conductor, unarmoured, sheathed cable for motor supply (max. 10 Mtrs.) shall be provided from control panel to feeder pillar at the base of the high mast. **Two Nos.** Control Panel (with forward and Reverse Contactor) and pendent switch (forward and Reverse push button control to raise/lower the lantern carriage.) for the geared motor shall be included in the High mast price and no separate item / qty. is considered.

## DATA SHEET FOR NEW 30Mtrs. HIGH MAST TOWER

	Sl. No	Description Lighting Mast	Specification
	1.0	High mast Height incl. Luminaires Carriage	30 m
	1.1	Material Construction[BSEN100025 or Equiv]	Gr S355
	1.2	Welding	As per IS
	1.3	No. Of Sides	20
	2.0	Mast Section Details	
	2.1	Top Diameter [In mm]	208
	2.2	Base Diameter[In mm]	666
	2.3	Number of Sections[ Nos]	3 ( one longitudinal welds per section except for bottom section where two longitudinal welds allowed)
	2.4	Top Sections length[mm]x thickness[mm]	10650X4
	2.5	MIDDLE SECTION Length[mm]x thickness[mm]	10650X5
	2.6	Bottom Section Length[mm]x thickness[mm]	10600X8
	2.7	over lapping[between Sections]	1000/900
	2.8	Base Flange Diameter[mm]	890
	2.9	Base Flange Thickness[mm]	32
	2.10	P.C.D [mm]x Hole Dimensions[mm]	790
	2.11	No. of Bolts[Qty]	20
	2.12	Foundation bolts Details	1200x32mm
	2.13	Metal Treatment protection for Mast	Galvanised
	2.14	Thickness of Galvanisation(min.)	Minimum 120 Microns
	2.15	Size of opening and door at base	1400mmx300mm
	2.16	Type of locking arrangement	Anti-Vandalism
	2.17	Size of anchor plate & thickness	890mmx6mm
	2.18	Details of template	890mmx6mm
	2.19	Weight in Kgs of mast incl.base	Approx 1797 Kg
	2.20	plate, door, head frame [in Kgs.appx]	
	2.21	headframe weight (Kg)	60
2.22	LRing/Luminaires loading on Mast Head[kgs]	Approx 600 Kg ( depends on lum configuration)	
2.23	Total Load for Foundation/ Crane arrangement[kgs]	2500 Kg( approx )	
3.0	Foundation Details		
3.1	Type of Foundation	Open Raft Type / PILE	

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3.2	size of foundation	as per soil data, to be given by contractor
3.3	Designed load bearing capacity	To be given by contractor
3.4	Design safety factor	>2
4.0	HEAD FRAME	3-POINT
4.1	Construction	MS. Fabricated
4.2	Metal Treatment protection for HEAD FRAME	Galvanised
4.3	PULLEY ARRANGEMENTS[ FOR STEEL WIRES]	3SETS OF PULLEYS
4.4	PULLEY ARRANGEMENTS[ FOR ELECTRICAL CABLES]	1 set OF PULLEY
5.0	LANTERN CARRIAGE	
5.1	Material of Construction	IS2062
5.2	Diameter of Carriage Ring(mm)-1NO	1200/1600
5.3	Construction	M.S fabricated
5.4	Number of joints	<b><u>Accepted manufacturer standard</u></b>
5.5	Buffer arrangements between Carriage& MAST	To be provided
6.0	COMPENSATING DISC BETWEEN L/RING & D/D WINCH	PROVIDED
6.1	COMPENSATING DISC - MANDATORY REF. ILE-TR7[Cl.3.6]	
7.0	SAFETY LOCKING ON BOTH SIDES OF BASE OF MAST	PROVIDED
8.0	Winch	D/Drum, 750 Kg cap
9.0	Stainless Steel wires diameter	
9.1	Number of Ropes	3
9.2	C/disc to D/d. Winch	two[8mm size]
9.3	C/disc to Lantern Ring	Three[8mm size]
9.4	Thimbles & Terminals	Provided.
9.5	Factor Of Safety	>5
10.0	POWER TOOL	Integral
10.1	Model	Crompton greaves/ Hindustan
10.2	Input Supply	415V,50c/s;3-ph
10.3	WATTAGE	1.5kW
10.4	Num. Of Speeds	Single
10.5	Reversible/Non-reversible	Reversible
10.6	Operating Speed	900 Rpm
11.0	Lightning Arrestor [1.2m Length]	To be provided
12.0	Aviation Obstruction light - LED	To be provided
13.0	Earthing with two earth pits	To be provided

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**LED luminaires :**

The LED luminaires shall be integral type. LED type shall be SMD (Surface Mounted Device) type LED. The luminaire shall have LM – 79 test report from a NABL accredited laboratory. The LED luminaire shall have 60 months warranty from the manufacturer. **Both luminaires and driver should have separate BIS nos. with valid register no. as per BIS norms and shall be submitted during drawing approval. Driver should have the BIS of the OEM.**

The Operating Temperature shall be 0 to 50 °C. LM80 Test report for ambient Temperature of 55/85/105 °C at rated and maximum current shall be submitted for SMD type LED.

TM-20 life projection calculation along with LM80 for all three ambient temperature of 55/85/105 °C as per applicable standard shall be submitted to substantiate that the life of LED chip shall be more than 50000 burning hours. The LEDs shall comply to Photo biological Safety norms as per IEC 62471 / EN 62471/ IS: 16108.

**Preferred make of LED:** CREE / LUMILEDS / NICHIA / OSRAM /CITIZEN / SEOUL / BRIDGELUX.

**Preferred make of LED Driver:** PHILIPS / MEANWELL / OSRAM / BAG.

The LED luminaires should have following technical details :		
Housing	::	<u>Housing: Extruded either Al enclosure LED fixture or Die-cast aluminium housing with epoxy powder coating and having cooling fins for effective heat dissipation.</u> <u>Separate cavity for driver &amp; LED lamp.</u>
Glass cover	::	Heat resistance toughened clear glass cover.
Light source	::	High power , high efficiency LED
Driver	::	Driver:-Drivers should have in-built protection against high voltage surge <b>&gt;4kVp</b> , open circuit & short circuit and <b>&gt;10kVp external SPD shall be provided.</b>
Operating temperature	::	Minimum 50°C
Input Voltage	::	110 V – 270 V , 50 Hz
IP Rating	::	IP 65
Wattage	::	<b>As per design (500W Minimum)</b> <b>Offered design shall meet design criteria as specified in scope of work.</b>
Mounting	::	Base mounting. Cable entry through bottom/side.
<u>System Lumen Efficacy</u>	::	≥110 Lumen/watt.

<u>Maintenance Factor</u>	::	<u>0.7</u>
<u>Wiring</u>	::	<u>3C X 1.5, PVC insulated PVC sheathed copper cable.</u>

## 8 **Outdoor Feeder Pillar with Intelligent smart lighting control system at the base of Mast**

A suitable board of non-hygroscopic material shall be provided at the base of the mast at door level. This will have Single pole MCBs of suitable rating for the lighting load of the mast for each circuit and CBT Connectors for cable Termination. The MCBs will terminate the in-coming supply and can be used as a local isolator during maintenance work. The system shall have in-built facilities for testing the luminaries while in lowered position.

One or more 5 pin socket(s) shall be mounted for the electric cable(s). A 5-pin power socket shall be provided for 3-phase power tool operation.

The outdoor Feeder Pillar for High Mast shall be pedestal type (with top canopy), IP 55 compliant and dust, damp, vermin & weather proof, fabricated from SS316 grade sheet (2 mm thick), angle & flat. It shall be provided with double shutter, handle with lock and key system. The Feeder Pillar shall be designed in such a way that it should be spacious for easy maintenance. The design & drawing of the Feeder Pillar would be approved by the Engineer, prior to manufacture.

The Feeder Pillar shall be provided with PVC sleeved (with colour code) electrolytic grade tinned copper connection bus bar (for 3 Phases and Neutral) or 10sqmm., 1C, EPR insulated flexible copper bus bar and following items:

Feeder pillar will have following components:-

- i) TPN, 40 A , 415 V, MCB (10kA breaking capacity ) :: 01 No.  
Incomer
- ii) TP, 16 A , 415 V, MCB (10kA breaking capacity ) :: 01 No.  
Out going
- iii) SP, 32 A , 415 V, MCB (10kA breaking capacity ) :: 06 Nos.  
Out going
- iv) Power contactor, 45 A , TP,415 V, 240V AC Coil AC-3 :: 03Nos.  
duty
- v) Power contactor, 9 A , TP,415 V, 240V AC Coil, AC-3 :: 02Nos.  
duty
- vi) Ring type CT, Primary-60A /18mA :: 03Nos.
- vii) Push Button switch :: 02Nos.
- viii) Connecting terminals (stud type), suitable for terminating :: 01 Set.  
02 nos. 3C x 6 mm<sup>2</sup>, 1.1 kV grade, Copper Conductor  
XLPE insulated ST-2 PVC sheathed armoured cable.[for  
motor supply]

- ix) Connecting terminals (stud type), suitable for terminating 01 no. 3 ½ C x 25 mm<sup>2</sup>, 1.1 kV grade, Aluminium Conductor armoured XLPE cable. :: 01 Set.
- x) Smart Lighting controller :: 01 Set.

**Features of smart lighting controllers:**

- a) Astronomical timer of 365 days time zone with month wise civil twilight setting for seasonal variation compensation.
- b) Real time clock with very high power reserve (60000Hrs.) more than 8years with WEB based auto update.
- c) Auto/ Manual facility for bypassing controller.
- d) HMI Display 16x2Lines
- e) Minimum 3Nos. Potential free contact to operate external contactor.
- f) Lantern carriage lowering/ raising mechanism along with required qty. of 4Cx6Sqmm Copper XLPE insulated cable for interconnection with motor and panel.
- g) Staggering facility (On/off Phase wise) for energy saving during night time.
- h) Class-1 meter for monitoring of electrical parameters (V, A, kW, kWh, PF etc.)
- i) All electrical alarm and Protection-Short circuit, Overcurrent, low amps, Over voltage, Under voltage, door open, low pf, etc.
- j) Wireless GPRS/GSM system to connect with web based remote monitoring and controlling through web based software including generation of energy consumption reports.
- k) Considering 5 years web subscription including charges for SIM limited to GPRS/GSM.
- l) Comprehensive guarantees of 5years.

**9**

**Aviation Obstruction**

Suitable Aviation Obstruction Lights of reliable design and reputed manufacturer shall be provided on top of each mast. The Aviation fitting shall be Heavy duty & whether proof and yellow painted die-cast aluminium alloy suitable for housing two nos. LED based aviation obstruction lamps. The Omni directional red colour light shall be ES lamp holders & prewired upto the terminal block. The unbreakable red coloured polycarbonate dome shall be provided and secured to housing by 3 nos. screws. The Aviation obstruction light shall be Degree of protection: IP 43 and Electrical safety – Class I and also 38 mm dia. threaded stem with lock nuts for mounting on the pipe above the high mast structure to be provided.

**9.1 Earthing & Lightning Protection**

The earthing and lightning protective system shall comply with all currently applicable standards, regulations and safety codes of the locality where the installation shall be carried out. The installation work shall confirm to the latest IE rules, standards (IS: 3043 for earthing / IS: 2309 for lightning protection) and other relevant code of practices.

One number heavy duty hot dip galvanized lightning finial shall be provided for each mast. The lightning finial shall be minimum 1.2 M in length and shall be provided at the center of the head frame. It shall be bolted solidly to the head frame to get a direct conducting path to the earth through the mast. The lightning finial shall not be provided on the lantern carriage under any circumstances in view of safety of the system. GI strip

of size 50x6 mm for control panel and for lightning 50x6 mm shall be used.

## 9.2 Tests

The **TPI Agency** shall have right to inspect the work being carried out under this Contract and to test the system to confirm conformity with the specifications.

The Routine and Field test shall be arranged by the Contractor and carried out as per latest relevant BIS / IS Standards in presence of **Third Party Inspection Agency appointed by the Port at the manufacturer's works & at site respectively. The cost of the TPI Agency is borne by Port.** The Certified copies of test certificates shall be submitted before despatch.

Should any tested systems fail to conform to the specification, the Employer may reject them and the Contractor shall make suitable alterations with prior approval of Employer to meet the requirements of the specifications, without any effect on cost of delivery times / project schedules.

The Employer's right to inspect, test and where necessary, reject the system shall be in no way limited or waived by reason of the systems having previously been tested and passed by the Employer or its representatives prior to dispatch of the system.

## 10 Load Point Panel:-

The outdoor Load Point Panel for High Mast shall be pedestal type (with top canopy), IP 55 compliant and dust, damp, vermin & weather proof, fabricated from SS316 grade sheet (2.5 mm thick), angle & flat. It shall be provided with double shutter, handle with lock and key system. The Load Point Panel shall be designed in such a way that it should be spacious for easy maintenance. The design & drawing of the Load Point Panel should be got approved from the Engineer, prior to manufacture.

The Load Point Panel shall be provided with PVC sleeved (with colour code) electrolytic grade tinned copper connection bus bar (for 3 Phases and Neutral) of suitable size and following items :

Load Point Panel will have following components:-

- i) TPN, 40 A , 415 V, MCB (10kA breaking capacity ) :: 06 No. Outgoing
- ii) TPN, 250A, 415V, SDFU in sheet steel enclosure (fitted with HRC Fuse) Incomer and outgoing interlink. :: 02 Nos.
- iii) TPN, 40 A, 415 V, MCB (10kA breaking capacity) :: 01 No. Outgoing for tapping power directly from incoming SDFU.
- iv) 200/225Amps.TP contractor(AC-3duty) Coil voltage-230V :: 01 No.
- v) Electro-mechanical time switch(with rechargeable battery backup) :: 01No.
- vi) By Pass Switch :: 01 No.
- vii) Connecting terminals (stud type), suitable for terminating 06 nos. 3 ½ C x 25 mm<sup>2</sup>, 1.1 kV grade, Aluminium :: 01 Set.



Conductor armoured XLPE cable.

viii) Provision for lighting inside Panel :: 01No.

All the aforesaid component shall be mounted in the Load Point Panel by means of suitable cadmium passivated hardware. The Panel shall be complete in all respect with detachable gland plate, interconnection using necessary PVC insulated (1.1 kV grade), single core, flexible (stranded) copper wire. The Panel shall be provided with 02 nos. SS Terminal for earthing.

#### **Foundation:-**

Civil foundation to be executed as per attached foundation drgs. Load Point Panel shall be placed at least +800mm above road level.

### **11 Junction Box:-**

The outdoor Junction Box for Power supply arrangement shall be pedestal type (with top canopy), IP 55 compliant and dust, damp, vermin & weather proof, fabricated from SS316 grade sheet (2.5 mm thick), angle & flat. It shall be provided with double shutter, handle with lock and key system. The Junction Box shall be designed in such a way that it should be spacious for easy maintenance. The design & drawing of the Junction Box should be got approved from the Engineer, prior to manufacture.

The Junction Box shall be provided with PVC sleeved (with colour code) electrolytic grade tinned copper connection bus bar (for 3 Phases & Neutral) of suitable size & following items :

Load Point Panel will have following components:-

- i) TPN, 40 A , 415 V, MCB (10kA breaking capacity ) :: 06 No.  
Outgoing
- ii) TPN, 400A, 415V, SDFU in sheet steel enclosure (fitted with HRC Fuse) Incomer and outgoing interlink. :: 02 Nos.
- iii) TPN, 40 A, 415 V, MCB (10kA breaking capacity) :: 01 No.  
Outgoing for tapping power directly from incoming SDFU.
- iv) 200/225A.TP contractor(AC-3duty) Coil voltage-230V :: 01 No.
- v) Electro-mechanical time switch(with rechargeable battery backup) :: 01No.
- vi) By Pass Switch :: 01 No.
- vii) Connecting terminals (stud type), suitable for terminating 06 nos. 3 ½ C x 25 mm<sup>2</sup>, 1.1 kV grade, Aluminium :: 01 Set.  
Conductor armoured XLPE cable.
- viii) Provision for lighting inside Panel :: 01No.

All the aforesaid component shall be mounted in the Junction Box by means of suitable cadmium passivated hardware. The Panel shall be complete in all respect with detachable

gland plate, interconnection using necessary PVC insulated (1.1 kV grade), single core, flexible (stranded) copper wire. The Panel shall be provided with 02 nos. SS Terminal for earthing.

**Foundation:-**

Civil foundation to be executed as per attached foundation drgs. Load Point Panel shall be placed at least +800mm above road level.

## **12 EARTHING SYSTEM**

### **12.1 General**

**Plate Earthing shall be adopted.** The earthing and lightning protective systems shall comply with all currently applicable standards, regulations and safety codes of the locality where the installation is to be carried out. Nothing in this specification shall be construed to relieve the Bidder of this responsibility. Wherever the word GI is used it means that hot Dip GI. **Copper Chemical earthing may also be allowed in case there is insufficient space for installation of GI plate earthing without any additional cost.**

Earthing Strip shall be of hot dip GI of size 50mmx6mm for Body & Neutral for protection against corrosion and shall be readily accessible. The strip shall be connected to earthing terminals with Stainless Steel nut – bolts. Separate Earthing for Body and Neutral shall be provided.

The installation work shall conform to the latest applicable Electricity Rules, standards (IS: 3043) and codes of practices.

After award of the Contract, the Contractor shall, carry out soil resistivity measurements at the site. A detailed earthing design shall be submitted for approval based upon the results of these tests. The total resistance of the earth grid shall be less than 1 ohm.

The earthing & lightning conductors and electrodes shall be supplied. Conductors shall be free from rust, scale and other electrical and mechanical defects and all materials used shall conform to relevant standards or approved by the Employer. The sizes, materials and quantity shall be as listed.

Steel earthing conductors above ground shall be hot-dip galvanized, unless otherwise stated, to prevent atmospheric corrosion. If painted steel conductors are required they shall be painted with two coats of approved anti-corrosive paint.

Flexible braids of sizes & materials shall be supplied for earthing of operating handles of isolators and earthing of equipment on moving platforms.

The links in suitable enclosures shall be supplied for connection between each lightning conductor down comer and earth electrode.

Cad welding type jointing equipment shall be supplied whenever specifically indicated.

## 12.2 Scope of Installation Work

The successful Bidder shall install bare/insulated, copper/aluminium conductors, braids, etc., required for system and individual equipment earthing. All work such as cutting, bending, supporting, painting/coating drilling, brazing/soldering/welding, clamping, bolting and connecting onto structures, equipment frames, terminals, rails or other devices shall be in the scope of work. All incidental hardware and consumable such as fixing cleats/clamps, anchor fasteners, lugs, bolts, nuts, washers, bitumastic compound, anti-corrosive paint as required for the complete work shall be deemed to be included as part of the installation work.

The scope of installation of earth conductors in outdoor areas, buried in ground shall include excavation in earth upto 600 mm deep and 450 mm wide, laying of conductor at 600 mm depth (unless stated otherwise), brazing/welding/ cad welding as reburied of main grid conductor joints as well as risers of 500 mm length above ground at required locations and backfilling. Backfilling material to be placed over buried conductor shall be free from stones and other harmful mixtures. If the excavated soil is found unsuitable for backfilling, the Bidder shall arrange for suitable soil from outside.

The scope of installation of earth connection leads to equipment and risers on steel structures/walls shall include laying the conductors, welding/cleating at specified intervals, welding/brazing to the main earth grids' risers, bolting at equipment terminals and coating welded/brazed joints by bitumastic paint. Galvanized conductors shall be touched up with zinc rich paint where holds are drilled at site for bolting to equipment/structure.

The scope of installation of electrodes shall include installation of these electrodes such as (a) directly in earth, (b) in constructed earth pits, and connecting to main buried earth grid, as per enclosed drawings/relevant standards. The scope of work shall include excavation, construction of the earth pits including all materials required for construction of the earth pits and connecting to main earth grid conductors.

The scope of installation of lightning conductors on the roofs of buildings shall include laying, anchoring, fastening and cleating of horizontal conductors, grouting of vertical rods where necessary, laying, and fastening/cleating/welding of the down comers on the wall/columns of the building and connection to the test links above ground level.

Normally an earth electrode shall not be situated less than 2m from any building. Care shall be taken that the excavations for earth electrodes may not affect the column footing or foundation of the building. In such cases, electrodes may be further away from the building.

The location of the earth electrodes shall be such that the soil has reasonable chances of remaining moist, as far as possible. Entrances, pavements and roadways are definitely avoided for locating the earth electrodes.

The scope of installation of the test links shall include mounting of the same at specified height on wall/column by suitable brackets and connections of the test link to the earth electrode.

## 12.3 Work Details

Earthing conductors along their run on walls and columns shall be supported by

cleating/welding at intervals of 750 mm and 1000 mm respectively.

Wherever earthing conductors cross underground service ducts and pipes, it shall be laid 300 mm below; the earthing conductor shall be bounded to such service ducts/pipes.

Wherever main earthing conductor crosses cable trenches, they shall be buried below the trench floor.

Suitable earth risers approved by the Engineer-in-Charge shall be provided above finished floor/ground level, if the equipment is not available at time of laying of the main earth conductors. The minimum length of such riser inside the building shall be 200 mm and outdoors shall be 500 mm above ground level. The risers to be provided shall be marked in project drawings.

Earth leads and risers between equipment earthing terminals and the earthing grid shall follow as direct and short a path as possible.

Neutral connection shall never be used for the equipment earthing.

Each neutral point of a transformer shall be earthed to two separate earth electrodes for connection with earthing system.

Shield wire in sub-stations shall be connected to the earthing grid through test links at every alternate switchyard portal tower.

A separate earth electrode bed shall be provided adjacent to structures supporting lightning arrestors and coupling capacitors. Earth connections shall be as short and as straight as practicable. For arrestors mounted near transformers, earth conductors shall be located clear of the tank and coolers.

Wherever earthing conductor passes through walls, galvanized iron sleeves shall be provided for the passage of earthing conductor. The pipe ends shall be sealed by the Bidder by suitable water proof compound. Water stops shall be provided wherever earthing conductor enters the building from outside below grade level. Water stops and above mentioned sleeves shall be provided by the Bidder.

#### **12.4 Earthing Connections**

All connections in the main earth conductors buried in earth/concrete shall be welded/brazed type. Connection between main earthing conductor and earth leads shall also be of welded/ brazed type. Cad welding type connections shall be done if specifically indicated.

Connection between earth leads and equipment shall be of bolted type, unless specified otherwise or shown in the drawings. Equipment Bidders shall provide earthing terminals on their equipment.

Welding and brazing operations and fluxes/alloys shall be of approved standards.

All connections shall be of low resistance. Contact resistances also shall be minimum. All bimetallic connections shall be treated with suitable compound to prevent moisture ingress.

Metallic conduits and pipes shall be connected to the earthing system unless specified otherwise.

## 12.5 Earth Electrode

Electrodes shall, as far as practicable, be embedded below permanent moisture level.

Electrodes shall be housed in test pits with concrete covers for periodic testing of earth resistivity. Installation of rod/pipe/plate electrodes in test pits shall be convenient for inspection, testing and watering wherever required.

### 12.5.1 Plate Earth Electrode

For plate electrode, minimum dimension of the electrode shall be as under:-

- i) GI plate electrode 60 cm x 60 cm x 10 mm thick  
RCC cover shall be suitably embedded in the masonry.

Soil, salt and charcoal placed around the electrode shall be finely graded, free from stones and other harmful mixtures. Backfill shall be placed in the layers of 250 mm thick uniformly spread and compacted. If excavated soil is found unsuitable for backfilling, the Bidder shall arrange for a suitable soil from outside.

### 12.5.2 Method of Connecting Earthing Lead to Earth Electrode

In case of plate earth electrodes, the earthing lead shall be securely bolted to the plate with two bolts, nuts, check-nuts and washers.

All materials used for connecting the earth lead with electrodes shall be GI in case of GI pipe and GI plate earth electrodes and of copper in case of copper pipe / plate electrodes.

The earthing lead shall be securely connected at the other end to the main board.

### 12.5.3 Size of Earthing Conductor

The earthing system shall be designed in such a way that over all earth resistance is less than one ohm. The soil resistivity shall be measured at site by the Bidder. If required, number of earth electrodes to be increased by the Bidder to achieve the required earth resistance.

In case of copper chemical earthing :-

Electrode Length (in mm)	Electrode Diameter (in mm) (Outer Pipe)	Electrode Diameter (in mm ) (Inner Pipe)	Copper Terminal Size (LxW) (in mm)	Conductive Minerals Filled
3000	80	50	50x10	YES

### Technical details of existing High Mast Towers.

Sl. No	Description Lighting Mast	Specification
1.0	High mast height incl. Luminaires Carriage Make-Bajaj Electricals Ltd.	30 m
2.0	Material Construction[BSEN100025 Eqiv.]	Gr S355
2.1	Cross section polygon	18sides
3.0	Mast Section Details	
3.1	Top Diameter [In mm]	150
3.2	Base Diameter[In mm]	610
3.3	Number of Sections[ Nos]	<u>3</u>
3.4	Top Sections length[mm]x thickness[mm]	10000X5
3.5	Middle section length[mm]x thickness[mm]	10700X5
3.6	Bottom Section Length[mm]x thickness[mm]	10750X <u>6</u>
3.7	Over lapping[between Sections]	900
3.8	Base Flange Diameter[mm]	840
3.9	Base Flange Thickness[mm]	30
3.11	P.C.D [mm]	740
3.12	No. of Bolts [Qty]	10 /12
3.13	Foundation bolts Details	850mm x 39mm
3.14	Metal Treatment protection for Mast	Galvanised
3.15	Size of opening and door at base a) Type A b) Type B	1040mm x 279mm
3.16	Weight in Kgs of mast incl. base	Approx 1797 Kg
3.17	LRing/Luminaires loading on Mast Head[kgs]	Approx 600 Kg
3.18	Total Load for Foundation/ Crane arrangement[kgs]	2500 Kg( approx )
4.0	Foundation Details	
4.1	Type of Foundation	Open Raft Type
4.2	size of foundation	5M x 5M
5.0	HEAD FRAME	2-POINT
5.1	Construction	MS. Fabricated
5.2	Metal Treatment protection for HEAD FRAME	Galvanised
5.3	Lightening finnal	1200mm
5.4	PULLEY ARRANGEMENTS	4Nos.
5.5	Pulley material	LM-6
6.0	LANTERN CARRIAGE	
6.1	Material of Construction	IS2062
6.2	Construction	GI
6.3	Number of joints	<u>2</u>
7.0	Winch	D/Drum,
7.1	Stainless Steel wires diameter	7/19, 6mm
7.2	Number of Ropes	2
7.3	Thimbles & Terminals	Provided.

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

8.0	POWER TOOL	External / Integral
8.1	Model	Hindustan
8.2	Input Supply	415V,50c/s;3-ph
8.3	Wattage	1.5KW
9.0	Luminaire	
9.1	2 x 400W HPSV & 1x400W HPSV flood light luminaire with non-integral CG box. Make-Bajaj	32 Lamps
9.2	Twin dome aviation. Make-Bajaj	2sets
10.0	Trailing cable	
10.1	5c x 2.5Sqmm EPR Cable	2sets

Note:

1. Above data's are provided for information to the bidders for execution of replacement jobs as mentioned in BoQ of the tender.
2. Existing High Mast tower foundation drawings are also enclosed for reference.
3. Providing foundation for 10Nos. existing High mast Towers shall be done as per New high mast drgs. attached with tender with 10Nos/12Nos. foundation bolts of 1200mm x 39mm(dia.).ie. for a wind speed of 200Kmph.
4. Stainless steel wires -7/19, 6mm on existing HM Towers to be replaced with 2Nos. (62Mtrs. each), 8mm dia. Stainless steel wires as per specification of new High Mast towers.

#### 14 LIST OF PREFERRED MAKES

SL. No.	ITEM	Name of Manufacturers
1	Package Outdoor Sub-station	SIEMENS /SCHNEIDER/ABB
2	VCB Panel	SIEMENS /SCHNEIDER/ABB or their authorized system integrator.
3	HT Cable	FINOLEX / RPG / APAR INDUSTRIES / TORRENT / HAVELLS / UNISTAR /POLYCAB
4	LT Cable (XLPE )	UNISTAR / FINOLEX/ HAVELLS / RPG / APAR INDUSTRIES/POLYCAB /KEI/ TORRENT
5	Outdoor CT	SCHNEIDER / KAPPA / PRAGATHI
6	Outdoor PT	SCHNEIDER / KAPPA / PRAGATHI
7	Volt meter and Ammeter	AE / MECO / YOKINS / NIPPEN
8	LA	OBLUM / LAMCO / ELEKTROLITES
9	Load break switch Panel	A BOND STAND / ELTECH CONTROLS/ MEGAWIN
10	LT Panels	SIEMENS / L&T / SCHNEIDER / ABB
11	Cable St. through jointing / end Termination Kit	3M / RAYCHEM

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12	Battery	HBL/EXIDE/AMARON/ AMCO
13	Selector switches, Push buttons, Emergency Switches	KAYCEE / L & T / GE / BCH / LEGRAND
14	HRC Fuses	L & T / GE / SIEMENS / ABB / INDO KOPP
15	Indicating light	AE / KAYCEE / VAISHNAV / L & T /SIEMENS
16	MCB /MCCB	L & T / SIEMENS / ABB / SCHNEIDER
17	Sub Distribution Board	L & T / LEGRAND / SIEMENS / SCHNEIDER / HENSEL
18	EL MCB	L & T / SCHNEIDER / LEGRAND / SIEMENS / ABB
19	PVC insulated copper conductor	HAVELLS / FINOLEX / RPG /UNIFLEX /NICCO /RR Kables
20	Steel Conduit/PVC Conduit	BEC / AKG / NIC
21	Switches	MK / CLIPSAL / LEGRAND / NORTH WEST /ANCHOR
22	Light Fixtures(LED)	PHILIPS / BAJAJ / WIPRO / CROMPTON/GE
23	Ceiling fans/Wall bracket fans / Exhaust Fans	HAVELLS / CROMPTON GREAVES / ORIENTAL
24	Cable lug & Cable Gland	DOWELLS / JHONSON / RAYCHEM
25	Terminal Blocks	WAGO & CONTROLS / PHOENIX CONTACTS / OBO BETTERMANN
26	Lightning Protection	DUVAL MESSIEN / SOUTH ASIAN ENTERPRISE LTD. / OBO BETTERMANN
27	Multi-function Meter	ABB / SIEMENS / L&T / HPL SOCOMEC/CONZERVE (ENERCON)
28	Contactors	L&T / SCHNEIDER / SIEMENS/ABB
29	MCCB	L&T / SIEMENS / SCHENEIDER / ABB
30	Push Buttons	SIEMENS / ABB / TELEMECANIQUE / L&T / SCHNEIDER
31	Relays	L&T / ABB / SIEMENS / SCHNEIDER/AREVA
32	Timers	L&T / SIEMENS / TELEMECANIQUE/ABB
33	Indicating Light	L&T / SIEMENS / TELEMECANIQUE / ABB / GE
34	Indicating Instruments	AE / MECO / CONZERVE / L&T
35	Panel CTs	L&T / AREVA / JYOTI / KAPPA / PRAGATHI
36	Panel PTs	AREVA / KAPPA / PRAGATHI

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37	ACB	SCHNEIDER / SIEMENS / ABB / L&T
38	Selector Switch	KAYCEE / L&T / SIEMENS / BCH / GE / SALZAR
39	Capacitor Banks	EPCOS / L&T / UNIVERSAL/ABB
40	Trivector Meter (Digital)	L&T / SCHNEIDER / SIEMENS / HPL SOCOMEC
41	Capacitor Panels	ABB / L&T / EPCOS / SCHNEIDER
42	Power Factor Correction Relay	EPCOS / L & T / ABB
43	Elastomeric Mat	PREMIER POLYFILM LTD / POLYELECTROSAFE / CHALLENGER
44	Structure	JINDAL/ SAIL / TISCO
45	GI PIPE	JINDAL/ SAIL / TISCO
46	High Mast	PHILIPS / BAJAJ / CROMPTON / GE/ TRANSRAIL/ VALMONT
47	Items not covered above	As per samples approved by Engineer.

**Bidders shall submit makers list for all major items [High Mast, LED Luminaire, Package outdoor Sub-station, Cables, VCB Panel, Jointing kits, GI pipes, structure, Cement etc.] during submission of Techno-Commercial bid. In case bidders fails to submit the list, it would be presumed that the bidder would strictly adhere to the preferred makes as indicated in the tender.**

After placement of LOA, successful bidder shall be required to comply the following during engineering stage of the project:-

Any new make, other than preferred make mentioned in the tender, may be accepted by the engineer, if the same meets the following criteria:-

- Shall meet Technical specification of the tender.
- Shall be from OEM [original equipment manufacturer].
- Shall submit at least 3Nos. Work order and Performance certificate from Central Govt./ State Govt./ PSU/other reputed organisation for offered equipment.
- Shall have valid Type test certificates for the offered equipment from CPRI /ERDA /ERTL /Gov. Labs.
- In case of LED luminaire, a site demonstration as per offered illumination design, by installation of LED luminaire, on existing high mast may be carried out at HDC site (based on discretion of the engineer), prior to according approval of drgs. at contractors own risk, cost and arrangement.

**In case, the new make offered by the bidder does not meets above mentioned criteria, the bidder should be required to adhere to the preferred make list of the tender.**

## 15 INSPECTION AND TESTING.

Equipment will be duly inspected in the manufacturer's works / premises by **TPI Agency/ representative of Engineer** before despatch to the site. **Cost of TPI Agency will be borne by the Port.**

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

Inspection of the items to be supplied by the contractor will be carried out **by the TPI Agency/ representative of Engineer prior to despatch**, as per the procedure mentioned in the for the relevant Item. Such inspection will be carried out within 10 days from the date of receipt of Inspection Call from the contractor.

The Engineer of the Contract reserves the right to waive inspection at Manufacturer's premises (witnessing tests) and to inspect (physically) the materials at site, after delivery, against Manufacturer's Internal Test Certificate.

The job of installation and commissioning will be inspected by the **representative of Engineer/ TPI Agency** in different stages and also after completion of the job. For this, the contractor shall have to submit a **Field Quality Assurance Plan (FQAP)**, which will be subsequently approved by the Engineer and the inspection will be carried out in accordance with the approved FQAP.

Inspection and Testing by the representative of **Engineer/ TPI Agency** shall not relieve the successful bidder of their obligation for supplying the items and execution of the entire work in accordance with the **Contract Condition** and relevant **Acts, Rules and Codes of Practice**.

**i. HT/LT XLPE Cables :**

Following tests will be witnessed by the **TPI Agency or** the representative of Engineer at Manufacturer's works before despatch:

- a) **Routine Tests** as per IS:7098-II/I
- b) **Acceptance Tests** as per IS:7098-II/I  
Manufacturer's Certificate for **Type Test** (as per IS: 7098), for similar type cable, should be made available to the **TPI Agency or** the representative of Engineer during the above inspection.

**ii. Package outdoor Sub-station :**

- a) **Routine Tests** will be witnessed by **the TPI Agency or** the representative of Engineer at Manufacturer's works before despatch

Manufacturer's Certificate for **Type Test**, should be made available to the **TPI Agency or** the representative of Engineer during the above inspection.

**iii. Vacuum Circuit Breaker Panel**

**Vacuum Circuit Breaker units:**

- a) **Routine Tests** (as per IS: 13118) will be witnessed by **the TPI Agency or** the representative of Engineer at Manufacturer's works before despatch.
- b) Manufacturer's Certificate for **Type Test** (as per IS: 13118), for similar type equipment, should be made available to the **TPI Agency or** the representative of Engineer during the above inspection.

**Current Transformers:**

Following tests will be witnessed by **the TPI Agency or** the representative of Engineer at Manufacturer's works before despatch: -

- a) **Routine Tests** as per IS: 2705.
- b) **Verification of Terminal Markings and Polarity** as per IS:2705

Manufacturer's Certificate for **Type Test** (as per IS: 2705), for similar type equipment,

should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**Potential Transformer:**

Following tests will be witnessed by the **TPI Agency** or the representative of Engineer at Manufacturer's works before despatch:

- a) **Routine Tests** as per IS:3156
- b) **Verification of Terminal Markings and Polarity** as per IS:3156

Manufacturer's Certificate for **Type Test** (as per IS: 3156), for similar type equipment, should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**Complete VCB Panel:**

Inspection will be carried out by the **TPI Agency** or the representative of Engineer before despatch. Manufacturers' Test Certificates for the components like **Relays, Ammeter, Voltmeter, Static kWh Meter & Maximum Demand Meter**, should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**iv. Outdoor FPB, Load Point panel, JB's:**

Following tests will be witnessed by the **TPI Agency** or the representative of Engineer at Manufacturer's works before despatch:-

- a) **Routine Tests** as per IS: 8623.
- b) Type test certificate for similar type & Rating of FPB be submitted by successful tenderer.

Manufacturer's Certificate for **Type Test** (as per IS: 8623), for similar type equipment, should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**v. St. through and End termination jointing kits:**

The kits will be inspected at site, after delivery, by the **TPI Agency** or the representative of Engineer, based on Manufacturer's Internal routine Test Certificate as per IS: 7098-I.

**vi. 30Mtr High Mast type lighting tower:**

Following tests will be witnessed by the **TPI Agency** or the representative of Engineer at Manufacturer's works before despatch:

- a) **Routine Tests** as per QAP
- b) **Type Tests** as per QAP.  
Manufacturer's Certificate for **Type Test** (as per IS), for similar design, should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**vii. LED Luminaire:**

Following tests will be witnessed by the **TPI Agency** or the representative of Engineer at Manufacturer's works before despatch:

- a) **Routine Tests** as per QAP
- b) **Type Tests** as per QAP.  
Manufacturer's Certificate for **Type Test** (as per IS: 10322), for similar design,

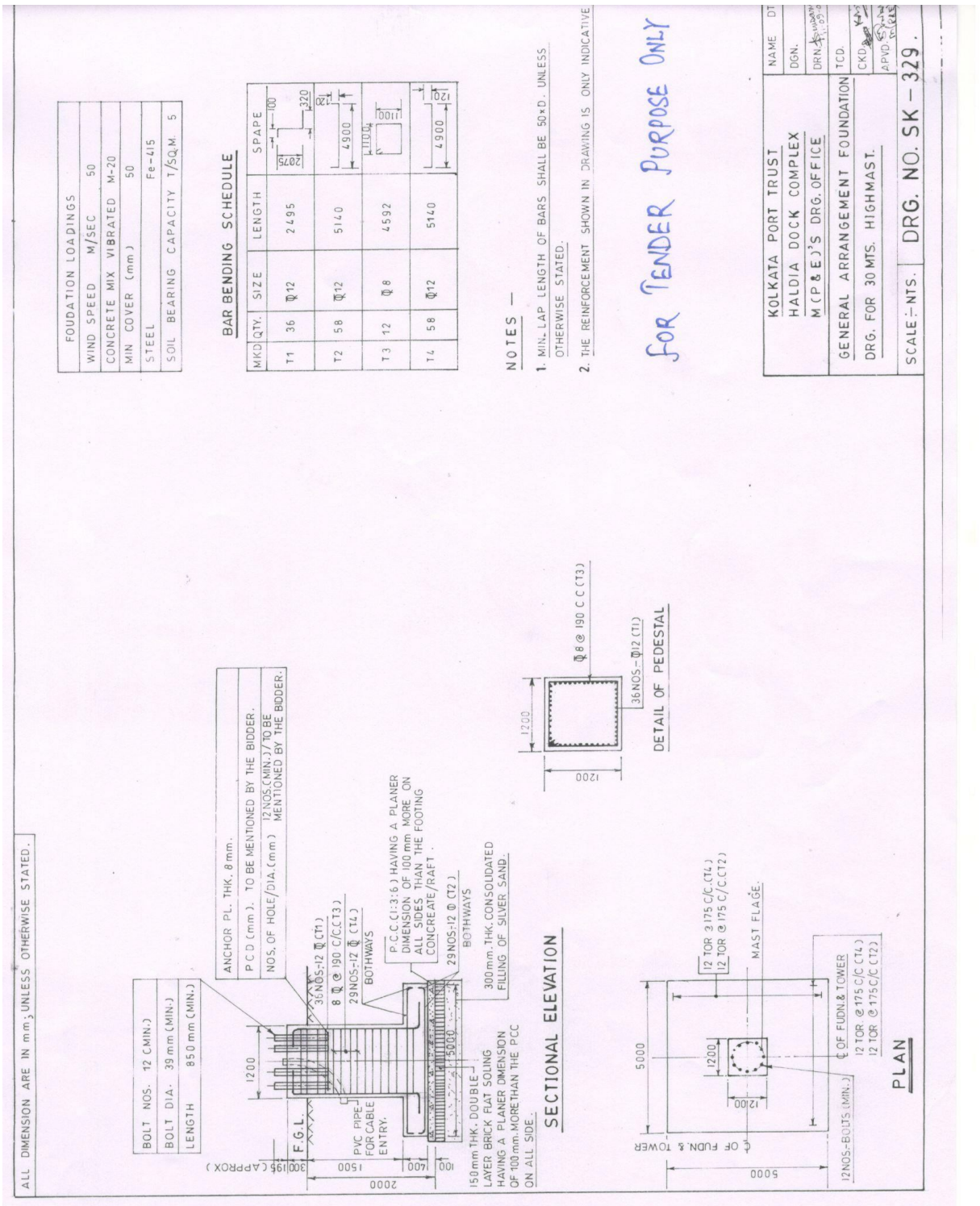
should be made available to the **TPI Agency** or the representative of Engineer during the above inspection.

**viii. Test on completion of installation:**

Lux level report by using calibrated Lux meter, as per approved FQAP for all high masts and lattice type lighting towers is required to be submitted after completion of installation work, as per proposed design.

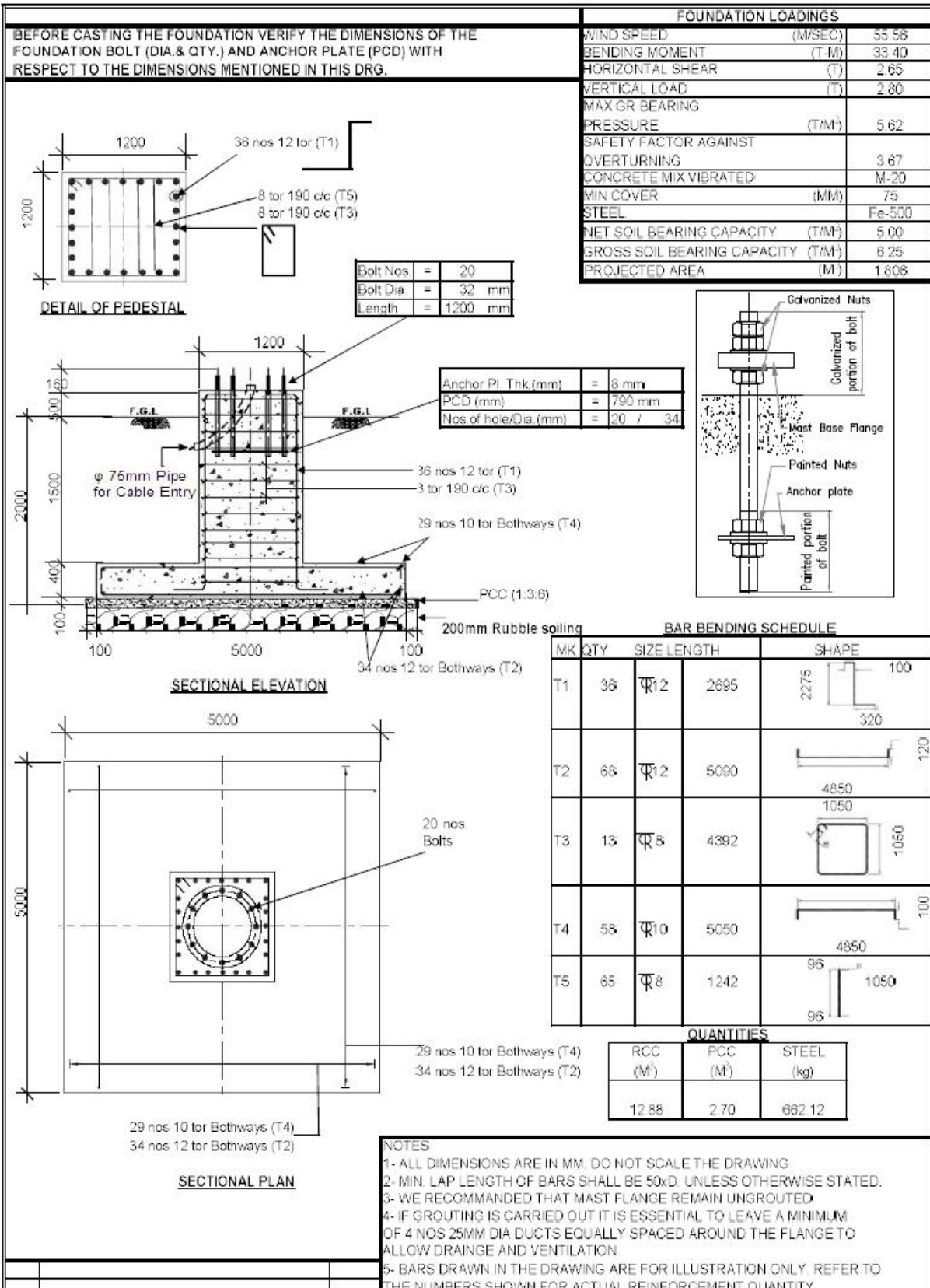
Inspection by using calibrated Lux meter will be carried out by the **TPI Agency** or the representative of Engineer on 10 Nos. High Masts / Lattice type lighting towers, chosen randomly, as per approved FQAP .If the illumination level of 25 Lux minimum is not achieved at a radius of 60 Mtrs. of each High Mast/ Lattice towers, the contractor would be required to provide additional fittings to meet above requirements on all High Mast/ Lattice towers. However, cost toward additional fittings and penalty on energy charges will have to be borne by the contractor.

**Existing HM Foundation Drg.**



Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

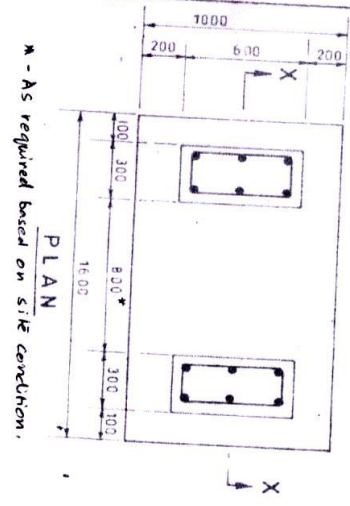
# New High Mast Foundation Drg.



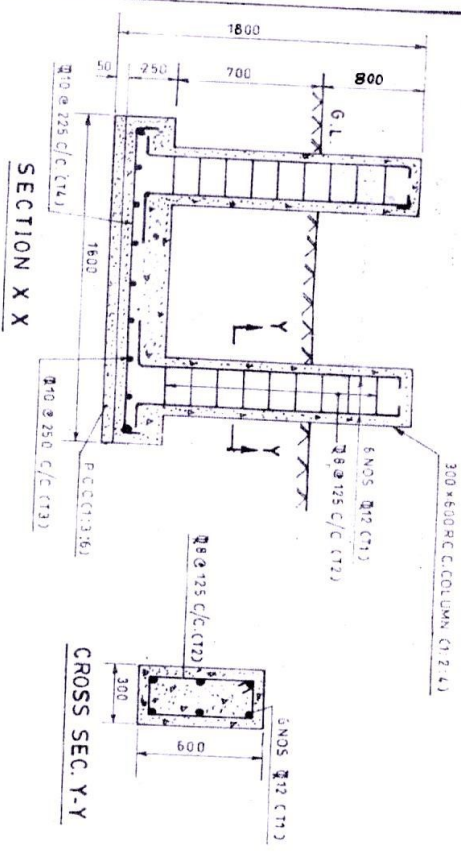
**FOR TENDER PURPOSE ONLY**

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

ALL DIMENSIONS ARE IN mm; UNLESS OTHERWISE STATED.



M - As required based on site condition.



BAR BENDING SCHEDULE #

MKD	QTY	SIZE	LENGTH	SHAPE
T1	12	12mm	1675	
T2	24	8mm	1592	
T3	1	10mm	1100	
T4	5	10mm	1700	

NOTES -

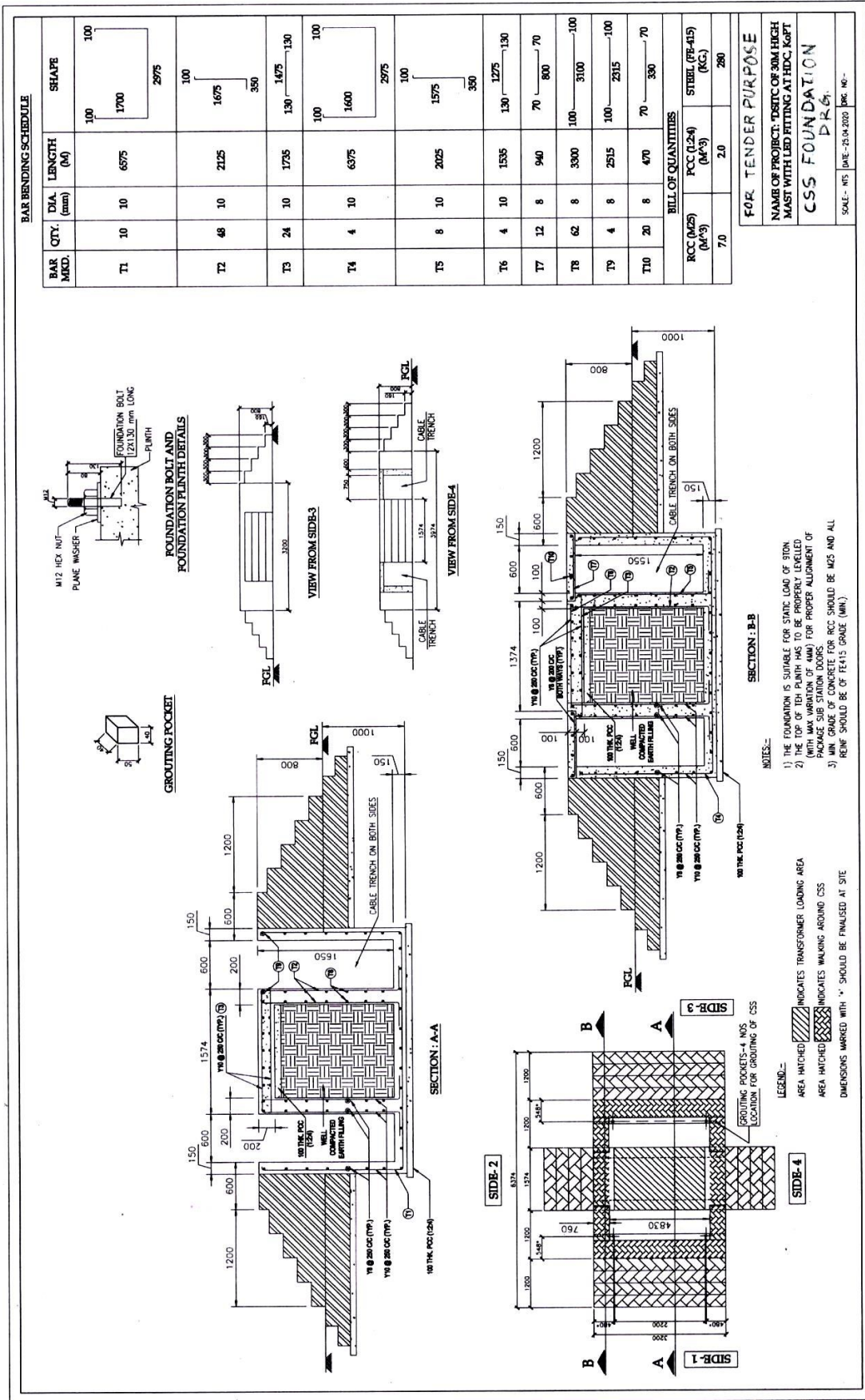
1. ASSUMED S. B. C. - ST/SQ. MTR. (MINIMUM)
2. MINIMUM GRADE OF CONCRETE M20
3. GRADE OF STEEL REINFORCEMENT FOR R.C.C. - Fe 415.
4. CLEAR COVER TO REINFORCEMENT - 50 mm.

For Tender Purpose only.

KOLKATA PORT TRUST	
HALDIA DOCK COMPLEX	
M (P & E)'S DRG. OFFICE	
R.C.C. FOUNDATION ARRANGEMENT FOR	
OUTDOOR TYPE FEEDER PILLAR BOX.	
SCALE NTS	DRG. NO. SK-

**Foundation Drg. Feeder Pillar/ Load Point Panel/JB's**

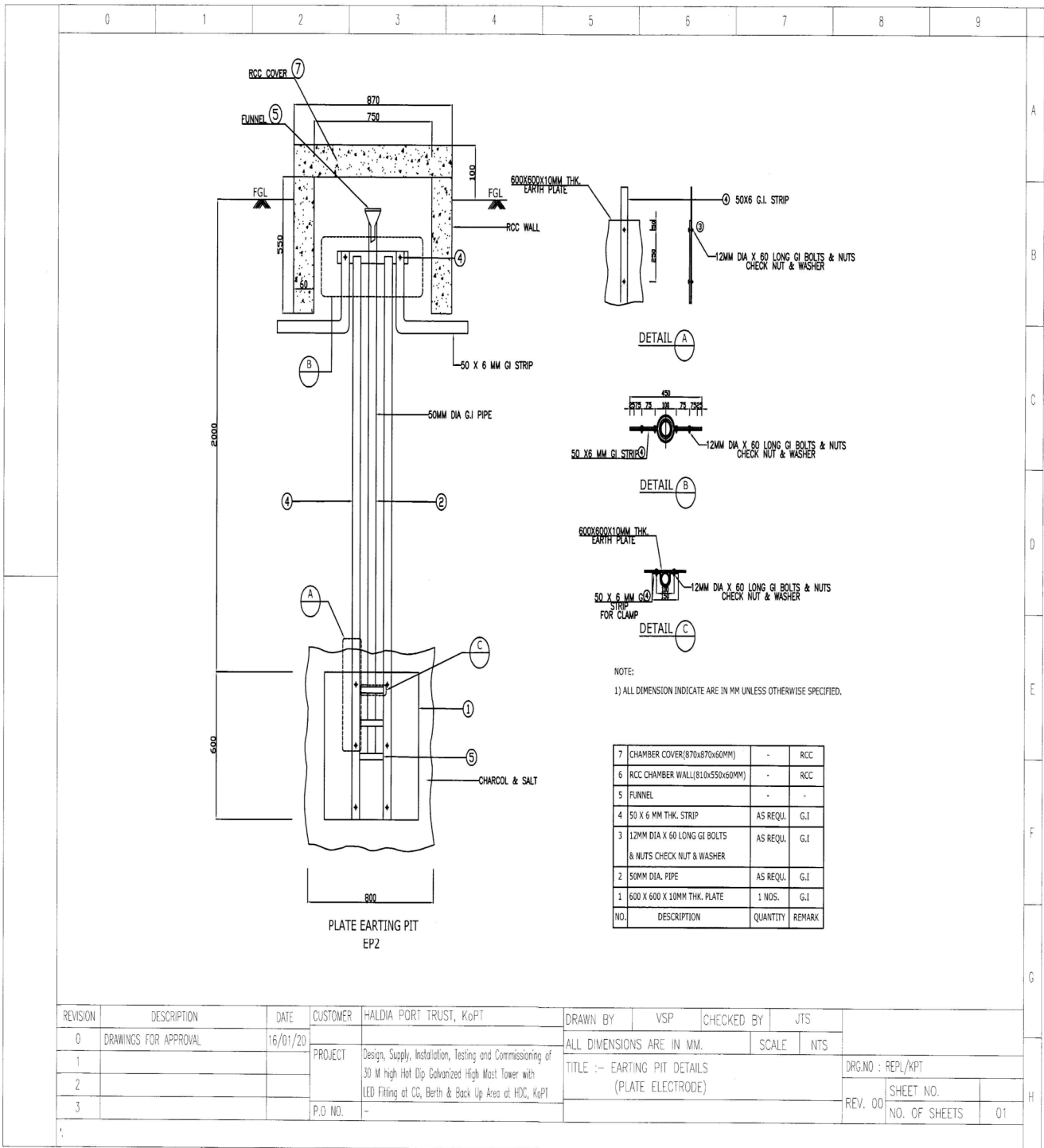
Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

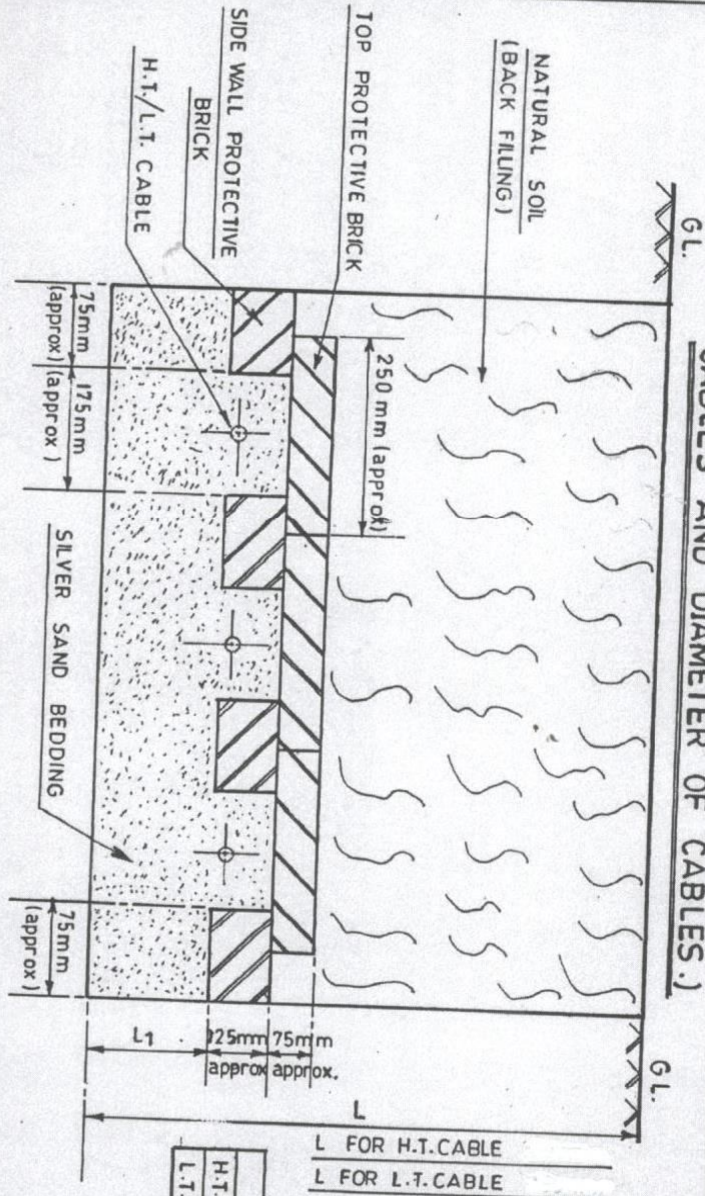


# Plate Earthing



**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.**

**SINGLE/MULTI NUMBERS H.T./L.T. CABLES IN ONE TRENCH.**  
**(WIDTH OF THE TRENCH OF THE CABLE WILL DEPEND ON THE NO. OF CABLES AND DIAMETER OF CABLES.)**



L FOR H.T. CABLE  
L FOR L.T. CABLE

H.T. CABLE	L	L1
L.T. CABLE	As per Spec.	100 mm
	As per Spec.	50 mm

KOLKATA PORT TRUST		NAME	DT
HALDIA DOCK COMPLEX		DGN.	
M (P&E)'S DRG. OFFICE		DRN.	30-08-10
SINGLE/MULTI NUMBERS H.T./L.T. CABLES IN ONE TRENCH.		TCD.	
		CKD.	
		APVD.	
SCALE :- NTS	DRG. NO. SK-334		

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

## SECTION VII

### **Maintenance Contract for the period of 5 years including 2years DLP.**

Maintenance contract for a period of Five years (Non-Comprehensive during Warranty period of 2 Years & Comprehensive during post warranty period of 3 years) from the date of completion and handover of project.

#### **A. Scope of work:-**

The Maintenance contract shall start after commissioning of the project. Under maintenance contract, the following shall be provided by the bidder: -

- i.** Normally, Periodic maintenance shall be carried out once (01) in every 3months by the bidder. However, bidder has to attend complaints within 48 Hrs. of complaint lodged by the competent authority of HDC. Routine maintenance, as per manufacturer's standard/guide lines, shall be followed. Periodic cleaning of Luminaires, FPB, LPP, JB, Package out door Sub-stations etc. shall be done with prior information to Engineer's representative.
- ii.** Record will be maintained for each maintenance/ complaint.
- iii.** Maintenance contract will be Non-Comprehensive during Warranty period of 2 Years. Arrangement of all required spares, tools, tackles including manpower will be under the scope of Maintenance contract. No spares would be provided by HDC, SMP, Kolkata. No payment for maintenance and/or spares would be made by HDC, SMP, Kolkata to the contractor during the said period.
- iv.** Maintenance contract will be comprehensive (with spares except Luminaries & Smart lighting feeder pillar box which is covered under DLP) during post warranty period of 3 years. Arrangement of all required Spares, tools, tackles & manpower will be under the scope of Maintenance contract. No spares would be provided by HDC, SMP, Kolkata.
- v.** Operation, on daily basis, of HM by Smart lighting feeder pillar-box thro web based software is in the scope of the contractor. User division of HDC/ P&E division would communicate about the operation (on/off, phase-switching) of High Mast towers in advance by e-mail/whatsapp/ SMS/verbal etc. Contractor's representative need to operate smart lighting feeder pillar-box through web based software for energy saving. **Necessary SIM Charges and cloud system charges are to be included in the cost offered.** HDC, SMP, Kolkata would not pay any extra cost for Operation of the system. Contractor shall create at least 6(Six) user- id for monitoring the system by HDC 's representatives.
- vi.** Supply of materials owing to theft / pilferage during Maintenance Contract period will not be covered under this contract and the same shall be supplied by HDC free of cost. However, installation of the same shall be done by contractor during periodic maintenance.
- vii.** Record of web based energy saving report and measurement of Lux level through calibrated Lux-meter is to be submitted by the contractor every month.
- viii.** Supply and laying of LT/HT cables, including jointing, fixing/ relocation of cable route markers and cable tags owing to defects developed after defect liability period is also in the scope of contractor.

- ix.** The winch motors, carriage supporting holders and remote control stations of the High Mast type Lighting Tower are to be collected with proper documentation from the Sectional Store of HDC, SMP, Kolkata for operation of High Mast type Lighting Tower and the same should be returned to the sectional store after completion of the job.
- x.** Lowering the Lantern Carriage from the High Mast type Lighting Tower using winch motor and remote control stations
- xi.** Identification of the defects of non-glowing of Luminaries and rectification of the same. Contractors scope includes supply & replacement of defective Luminaries, , Timer, Smart controller, 3 Pole Power Contactor, VCB/MCCB/MCB, Isolator/ Load break switch, Winch assembly, shaft/ gear/ pinion/ drum, raising Cable, Switch Disconnecter fuse unit, Fuse, Fuse base, Distribution Board, all hardware items like G.I. Nut, Bolt, Washer etc. Defective spares should be checked in front of Engineer Representative / Engineer of the contract for confirmation of defects.
- xii.** Cleaning of glasses of the light fittings, control gear, junction box, etc. Proper sealing of flood light Luminaries in case of front opening of the Luminaries after rectification of the fault.
- xiii.** Job includes installation of additional Luminaries, junction box, wire rope etc. on High Mast / Lattice type Lighting tower. All materials will be supplied by contractor.
- xiv.** Job also includes re-wiring of Luminaries, junction box, etc. on High Mast/ Lattice type Lighting tower. All materials will be supplied by contractor.
- xv.** Tools & tackles etc. and labours required for complete execution of the work at site are to be supplied by the successful bidder.
- xvi.** Hoisting the Lantern Carriage on the top of the High Mast type lighting Tower after attending the Fault & duly certified by the Engineer/Engineers representative.
- xvii.** In case of shearing of wire ropes, replacement/ repairing of the same by deploying skilled personnel along with necessary safety equipment, depending upon the requirement of the site.
- xviii.** Replacement/ repairing of the Gears and pinion of winch by deploying skilled personnel along with necessary safety equipment, depending upon the requirement of the site.
- xix.** Transporting the materials from site store to High Mast/ Lattice type Lighting Tower for replacement and the old materials from the High Mast/ Lattice type Lighting Tower to be return back to the site store of HDC, SMP, Kolkata (with proper acknowledgement).
- xx.** Providing competent supervisors, skilled personnel for Maintenance with necessary safety equipment depending upon the requirement.
- xxi.** The Contractor shall obtain permit for work at height & other job related from concern authority, if any. No extra payment will be made on this account.
- xxii.** Before proceeding on any work, the Engineer / Supervisor of the successful bidder must report to Sectional In charges / Engineers representative of the contract, to know about the work site / High Mast type Lighting Tower to be attended on that day.
- xxiii.** Before proceeding on any work, the Engineer / Supervisor of the successful bidder must hang the Danger Board at the source of Power supply feeding power to the High Mast type Lighting Tower/ Feeder Pillar with intimation to Sectional In charges /

Engineers representative of the contract.

- xxiv. After Completion of the work, the Engineer / Supervisor of the successful bidder should remove the danger board with intimation to Sectional In charges / Engineer representative of the contract.
- xxv. The successful bidder shall engage all the spares, men, tools and plants, required for the work. Haldia Dock Complex/ Syama Prasad Mookerjee Port, Kolkata will not supply any of the same.
- xxvi. In case of advance warning of cyclone, Lantern Carriage of High Mast should be lowered and shall be securely fastened at the bottom of the High Mast to avoid any damage. All the materials, men, tools and plants, required for the work shall be arranged by the contractor. No additional payment would be made for the said work.
- xxvii. The contractor shall maintain a site store with adequate spares [LED driver, LED Panel, cable jointing kits, MCB's, MCCB's, cables, termination kits, terminals etc.], manpower, tools and tackles required for maintaining the system during Non-Comprehensive / Comprehensive Maintenance Contract.
- xxviii. The Contractor should use calibrated measuring & testing instruments [having Valid Calibration Certificate] and should also ensure revalidation of such calibration as and when required. In this regard, initially the Contractor shall have to submit a list of measuring and testing instruments (mentioning the period of validity of Calibration Certificates) to be used. The photocopies of the Calibration Certificates (including the revalidations) of the said measuring and testing instruments, shall have to be submitted to the 'Engineer', from time to time.

**B. Exclusions: -**

- a. Maintaining power supply at the base of the lighting towers/ FPB/Sub-stations/ JB's, which are beyond the scope of project, is excluded from the scope of the contractor.
- b. Supply and replacement of cable/ lighting towers/ FPB/Packaged outdoor Sub-stations/ JB's etc., damaged by Cargo handling equipment/ fire arising out of cargo/ sliding cargo/ theft/ act of god etc.
- c. Cable fault location testing is excluded from bidders scope. Cable fault location testing by necessary instruments would be done by HDC. However, all works (i.e. earth excavation, cable jointing and restoration of work site etc.) post identification/location of the fault is to be completed by the contractor at his risk and cost.

**C. MAN POWER:**

The Contractor shall deploy necessary manpower in **General Shift** for the aforesaid non-comprehensive / comprehensive maintenance & manning contract, after completion of the upgradation work. The minimum number of manpower, to be provided by the Contractor, for the instant work, should be as specified below:

<b>Sl. No.</b>	<b>Category</b>	<b>Minimum no. of manpower to be provided by the Contractor.</b>
----------------	-----------------	--

1.	Supervisor [ Highly-skilled category]	01 per day in General Shift
2.	Electrician (Category-1) [ Skilled category]	02 per day in General Shift
3.	Electrician(Category-2) [ Semi-skilled category]	02 per day in General Shift

Name of the shift	Duration
General	09: 30 Hrs. to 18: 30 Hrs. with necessary recess.

C.1. Statutory Weekly Roster Off day is to be provided to all workmen.

No reliever is required against Weekly Roster Off days with respect to the General Shift manning. However, required numbers of relievers are to be made available to compensate against shortfall of General Shift manning (for absence due to leave, sickness, etc.), with respect to the minimum requirement mentioned above.

At no stage, shortfall of staff will be accepted, in manning.

The aforesaid deployment of man power shall have to be increased depending upon the prevailing emergency situation without claiming any extra cost.

C.2. The aforesaid manpower, to be engaged by the Contractor, should possess requisite valid Workman's Permit, from the appropriate statutory authority. Revalidation / renewal of Workman's Permits are to be obtained by the Contractor / workmen deployed by the Contractor, at their own cost & arrangement.

C.3. The Contractor should ensure that no person, engaged by them for the instant work, is without possessing the required Workman's Permit.

C.4. The Contractor shall obtain at their own cost and expenses, all required licences / permit, as and when required under the existing statutes or central or State enactment that may be in vogue or may be enacted/ enforced during the period of contract for performance of work under this contract. The Contractor shall ensure that the licences / permits and other statutory requirements for this purpose are kept valid during the currency of the contract. The Contractor shall also be responsible for fulfilling all legal and statutory provisions connected with this contract. It is the duty of the Contractor to obtain / renew required licenses / permits / certificates, in connection with the instant contract, at their own cost & arrangement.

C.5. The Contractor would be required to arrange regular supervision at the deployment points, at no extra cost.

C.6. The personnel engaged by the Contractor must be punctual, disciplined, hard-working, suitably experienced and vigilant in performance of their duty. The Contractor shall submit the list of employees (with Bio data, including qualifications & experience) deployed by the Contractor together, for the instant work and the same should be updated from time to time, in case of any change.

C.7. The personnel engaged by the Contractor should be medically / mentally / physically fit to work during the specified working hours. HDC, SMPK, shall have the right to ask for the

removal of any person of the Contractor who is not considered to be orderly in discharge of his duties/ role, if found dubious in nature. The persons deployed by the Contractor should be adult, medically & physically fit, having sound health & mind. Employment of child labourer will lead to termination of contract.

- C.8. The Contractor shall submit the Character & Antecedent verification (certificate issued by Police Authority) of all personnel engaged at HDC, SMPK through this contract and submit the same to HDC, before deployment of their personnel at HDC, SMPK.
- C.9. If it is found that, any personnel engaged by the Contractor indulged / indulging in illegal & intolerable activities, he will be handed over to the police or any other administrative action, as deemed fit against him, will be taken. The Contractor shall not replace their personnel, without proper substitute & knowledge of HDC.
- C.10. HDC shall have the powers to issue necessary guidelines covering discipline, decorum, work performance, safety, etc. to the personnel engaged by the Contractor and the persons engaged shall ensure compliance with all such instructions. It shall be the duty of the Contractor to provide supervision and direction to the engaged personnel for satisfactory performance and compliance of all instructions given by HDC.
- C.11. The Contractor shall be responsible for satisfactory service of their personnel engaged. In the event HDC, SMPK, being not satisfied with the conduct of any personnel provided by the Contractor, the Contractor shall forthwith replace the personnel concerned within 24 hrs on being so advised by the 'Engineer' of the contract or his representative.
- C.12. If, at any time during the period of contract, it is observed that the services under the provisions of this contract are not being rendered upto the satisfaction of HDC and / or the statutory obligations, in respect to contract, are not being fulfilled by the Contractor, the contract may be terminated in full or in part, after giving 15 days' notice. The decision of Haldia Dock Complex in the matter shall be final and binding on the Contractor.
- C.13. The personnel engaged by the Contractor shall abide by all safety norms, rules & regulations for working in HT / LT installations, including Lines.
- C.14. In case of any damage / accident occurs in HT / LT installations, for mishandling, mal-operation, due to negligence of Contractor's personnel, the damages will have to be mended good by the Contractor at their risk, cost and arrangement. Otherwise, the same will be repaired / replaced by HDC, either departmentally or through outside agency and the cost of repairing / replacement will be recovered from the contractor, along with overhead charges @19.25%.
- The contractor should indemnify to Haldia Dock Complex in this regard, in the prescribed format of Haldia Dock Complex, on a non-judicial stamp paper of value not less than ₹ 50.00.
- C.15. The contractor shall fulfil all legal / statutory obligations in respect of the instant contract. HDC, SMPK, shall not accept any liability whatsoever in the matter.
- C.16. Photocopies (duly attested by the Contractor) of valid Workman's Permits of the personnel engaged by the Contractor, shall be submitted by the Contractor and the same should be updated from time to time, in case of any change.
- C.17. The Contractor shall issue Identity Cards to each personnel deployed for the instant work. The Identity Card should bear required details of the personnel viz. name, permanent & residential address, identification mark, age, etc. along with a photograph, duly authenticated by the Contractor.
- Photocopies (duly attested by the Contractor) of the aforesaid Identity Cards shall be submitted by the Contractor and the same should be updated from time to time, in case of

any change.

- C.18. All the persons deployed by the Contractor shall wear Safety Helmet, Safety Shoe, Safety Hand Glove and other Personnel Protective Equipment (PPEs), alongwith Identity Cards card issued by the Contractor
- C.19. Necessary transport for workmen and for providing materials, tools & tackles, other accessories, etc. in connection with the instant work required for carrying heavy materials, from the store to the point of use, necessary vehicular support will be provided by HDC, SMPK. However, handling of the materials, including loading / unloading shall be done by the workmen of the Contractor.
- In normal circumstances, the workmen shall reach the work spot by their own arrangement. However, in case of emergency or in case of bad weather or any abnormal situation, vehicular support may be provided by HDC, SMPK to the workmen for attending any breakdown / power failure.
- C.20. No complaint regarding shortage of staff, any other facilities, absence of staff, etc. shall be entertained. It would be the responsibility of the Successful Bidder to protect the deployment points, to carry out assigned functions, as per scope of work.
- C.21. Administrative and related activities of the personnel, to be deployed by the Contractor, shall be the sole responsibility of the Contractor, at their sole expenses & arrangements.
- C.22. All personnel engaged or employed by the Contractor shall be the sole liability & responsibility of the Contractor and HDC will have no liability, in this regard. All liabilities towards overtime or extra payment for any person engaged / deployed for more than statutory normal working hours shall be solely borne by the Contractor. The Contractor shall make regular and full payment of wages, salaries, etc. to the persons engaged or employed as required under various regulations and statutory provisions.
- C.23. The Contractor shall ensure that all personnel engaged or employed by the Contractor get minimum wages and such other benefits, as are admissible under various labour laws applicable in India. They shall provide full information in respect of wages etc., paid to his employees so deployed in conformity with the provisions of contract Labour (Regulation and Abolition) Act, 1970.
- C.24. The persons deployed by the Contractor for the work shall be the employees of the Contractor for all intents & purposes. It should be understood that there is no “employer – employee”, “master – servant” or “principal – agent” relationship between HDC, SMP, Kolkata and the Contractor and/or the personnel engaged by the Contractor, in any manner whatsoever (accrue implicitly or explicitly).
- The Contractor shall indemnify HDC, SMP, Kolkata, from the possible future demand of workers / personnel engaged by them under this contract, for absorption in HDC, SMP, Kolkata. It shall be the responsibility of the Contractor to address & solve such demands, if such a situation arises. HDC, SMP, Kolkata shall have no liability whatsoever in the matter.
- C.25. The Contractor shall be directly & exclusively responsible for any liability arising due to any dispute or difference between them and the personnel engaged. The Contractor shall be solely responsible for settlement of any claim / dues, in case of any of the personnel engaged under this contract sustaining injury to himself or his property, within the premises / deployment points of HDC. The Contractor shall have to take necessary insurance cover and provide for medical treatment for all their personnel, in this regard, at their own cost and expenses.
- C.26. The Contractor must have EPF & ESI Code Nos. and they shall pay their contribution (i.e. employer’s contribution) on account of ESI & EPF w.r.t. the personnel, to be deployed by



them, as per statutory requirement. The Contractor shall also deduct the contribution of the personnel engaged (i.e., employees' contribution) on account of ESI & EPF from their wages, as per statutory requirement. The Contractor shall then deposit with the respective authorities, both the aforesaid contributions i.e., the employer's and employee's contributions, as statutorily required.

C.27. The contractor should obtain required Labour Licenses from appropriate authority before commencement of job.

C.28. The qualifications & experiences of the manpower, deployed by the Contractor, would be as follows:

<b>Category</b>	<b>Qualification / Experience</b> <b>[ minimum requirement]</b>
<b>Supervisor</b> <b>[ Highly-skilled category]</b>	Diploma in Electrical Engineering and possessing a valid <b>Supervisor's Certificate of Competency (SCC)</b> , issued by the appropriate statutory authority, against the relevant parts, for carrying out such type of job [ i.e. at least for 11000 V system].
<b>Electrician</b> <b>(Category-1)</b> <b>[ Skilled category]</b>	ITI (NCVT- 02 years) pass with 03 years experience and possessing valid Workman's Permit, issued by the appropriate statutory authority, against the relevant parts, for carrying out such type of job.
<b>Electrician</b> <b>(Category-2)</b> <b>[ Semi-skilled category]</b>	Class VIII pass, with 01 year experience and possessing valid Workman's Permit, issued by the appropriate statutory authority, against the relevant parts, for carrying out such type of job.

**D. PENALTIES:**

a) Non availability of minimum strength of man power shall attract a penalty as per the table furnished below:-

<b>Sl. No.</b>	<b>Category</b>	<b>Penalty</b>
<b>1.</b>	<b>Electrician- Category-1</b>	<b>2times the minimum wages rate of Skilled category per shift per head.</b>
<b>2.</b>	<b>Electrician- Category-2</b>	<b>2times the minimum wages rate of Semi-Skilled category per shift per head.</b>
<b>3.</b>	<b>Supervisor</b> <b>[ Highly-skilled category]</b>	<b>2times the minimum wages rate of Highly-Skilled category per shift per head</b>

b) Minimum Availability of High Mast: 98%.

Minimum Availability of LED luminaire:75% per High Mast.

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

1. Non-availability of High Mast[ non-function of raise/lowering mechanism, trailing cable, winch assembly, wire rope ] beyond minimum availability even though, the Power supply is available at bottom/ MCB DB's of the Mast, beyond two days from the date of lodging complaint by SMPK official shall attract a penalty of ₹500.00 per day per high Mast. Imposition of penalty at the discretion of Engineer In charge.

2. Non-availability of LED Luminaire beyond minimum availability, even though, the Power supply is available at bottom/ MCB DB's of the Mast, beyond two days from the date of lodging complaint by SMPK official shall attract a penalty of ₹50.00 per day per luminaire per high Mast. Imposition of penalty at the discretion of Engineer In charge.

E.

**RECORDS:**

The Contractor shall maintain and keep the records of day-to-day maintenance activities, i.e. material consumption, work carried out, attendance of workmen, etc. The Contractor shall also maintain and keep the daily operational report of Electrical installations [like no. of non-glowing lamps in High Mast, partly power failure ( if any), etc.] and shall have to submit the same to the Sectional Incharge (P&E), HDC, in specified formats .

The contractor shall have to follow the schedules of maintenance, as will be framed jointly by the representatives of the HDC, SMPK and the Contractor.

The Contractor shall maintain a Complaint Register, mentioning the date of complaint & date of rectification of fault / defect. After rectification of the fault / defect, the same should be countersigned by the persons who lodged the complaint or his / her representative. The aforesaid register should be countersigned by the representative of Sectional Incharge (P&E), HDC, at least once in a week.

F.

**MATERIALS FOR MAINTENANCE:**

The contractor shall have to maintain stock / materials with a view to timely attending the fault in any electrical installations so that down time of the concerned portion of the electrical distribution system can be kept to the minimum.

In case of breakdown leading to interruption of power supply within the jurisdiction of work, immediate action shall be taken from Contractor's end and stop gap or temporary arrangements for resumption of power and functioning of the system is to be made as early as practicable. A qualified & experienced Supervisor shall be present at the work spot. This arrangement will however be allowed only for a week within which period, the original installation / system has to be restored & re-commissioned.

G.

**TOOLS, TACKLES AND CONSUMABLES:**

a ) Providing required tools & accessories to the personnel deployed by the Contractor, for the instant work, is under the scope of the Contractor.

The bidder shall include in their bid any special tools and tackles, if any, for maintenance, erection & testing. The list of such special tools and tackles shall be given in the bid and prices for bringing & using such items shall be deemed to be included in the bid price.

Work without proper tools and tackles will not be permitted. Before commencement of the contract, the Contractor shall have to get the approval of tools for maintenance.

The minimum tools & tackles, which are required to be made available at site all the time, are given below:

List of tools to be maintained (minimum) is given below:

i)	Emergency Light.	02nos.
ii)	Tool Kit consisting of Screw Driver Set, Nose Pliers, Cutting Pliers, Test lamp, Tester, Screw Driver.	04 set
iii)	Hammer, Chisel, Pipe Wrench.	02set
iv)	Ring spanner full set	02set
v)	Double handed spanner full set	02set
vi)	Nylon Ropes with Pulley.	02 nos.
vii)	Hammer	02 nos.
viii)	Double end spanner, Box spanner.	02set
ix)	Set of Spanners (Ring and Open).	02set
x)	HT Gloves (11kV and above)	01 set
xi)	Allen key spanner set	02set
xii)	Electrical Portable Drilling Machine (including Bits).	01 no.
xiii)	Hacksaw	02 nos.
xiv)	Cable / conductor crimping tool	01 no.
xv)	Mini welding / cutting machine	01 no.
xvi)	Earth Resistance Tester.	01 no.
xvii)	Hydraulic Crimping Tools.	01 no.
xviii)	Tarpaulin Tent Set.	01 no.
xix)	Crow bar and Axe.	01 set.
xx)	Vacuum cleaner.	01 no.
xxi)	U type Dog clamp	30Nos.

- b)** The Contractor shall, at their own cost, provide safety gears i.e. Helmet, Insulating Gloves for Electrical Works, Cotton Gloves, Safety Shoes, Rainy Wears, Reflective Jacket, Soap, Sanitizer, Gloves, Masks, etc. to their workmen.
- c)** The Contractor shall, at their own cost, provide first aid box(s), as per requirement, for their workmen.
- d)** Consumable materials like Gear oil, Petroleum jelly, Grease, lubricants, cleaning solvents, insulating tapes, Cable repair-wrap around jackets, cable lugs, Glands, welding electrode, sealing compounds, Distil water etc. would be provided by the contractor against supplied materials only. Consumable for items not supplied by the contractor will be provided by HDC for execution of work on free of cost basis.

#### H. TESTING INSTRUMENTS:-

Providing following minimum testing instruments at HDC's sub-station, for the instant work, is under the scope of the Contractor.

i)	Portable digital insulation tester, 500V	01 no.
ii)	Portable digital insulation tester, 2500V	01 no.
iii)	Digital Clamp meter cum Continuity tester	03 nos.

#### I. LIST OF MINIMUM MANDATORY SPARES TO BE MAINTAINED DURING CONTRACT

Providing following minimum spares, for the instant work, is under the scope of the Contractor.

Sl. No.	Item	Qty.
1.	11KV Single phase, Panel Mounted PT	01No.
2.	VCB Tulip contacts	01set
3.	Numerical relay	1set each type.
4.	Multifunction meter	1No.
5.	ACB Power contacts	01set.
6.	MCCB,400A	02Nos.
7.	MCCB,250A	03Nos.
8.	MCB, 63A/40A	06Nos.
9.	Space heaters	03Nos.
10.	Cable repair Wrap around jacket	As required
11.	Heat shrinkable type St. through joints	02Nos.
12.	Heat shrinkable type Indoor/ outdoor Jointing kit	02Nos.
13.	400A SDFU	02Nos.
14.	250A SDFU	02Nos.
15.	LED luminaire driver	30Nos.
16.	LED luminaire Surge protector	30Nos.
17.	Trailing cable	2sets.
18.	500W LED Luminaire	36Nos.
19.	Power contactor Coil-240/415V	06Nos.
20.	MCCB Spreader terminals	01set each type.
21.	Smart Lighting controller	03sets.
22.	Cable route marker	50Nos.
23.	Cable ties and Cable tags	As required

After completion of the contract above spares to be handed over to HDC on free of cost basis.

**SECTION VIII**  
**GENERAL CONDITIONS OF CONTRACT (GCC)**

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**Sanctioned by the Trustees under Resolution No. 92 of the 6<sup>th</sup> Meeting held on 27<sup>th</sup> May, 1993**

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**Including Addendum Sanctioned by the Trustees under Resolution No. 80 of the Meeting held on 25<sup>th</sup> August, 2009**

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**KOLKATA PORT TRUST**  
**KOLKATA DOCK SYSTEM**  
**& HALDIA DOCK COMPLEX**  
**AUGUST, 2009**

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

## GENERAL CONDITIONS OF CONTRACT

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**GC - 1**

**AMENDMENT**  
**TO**  
**GENERAL CONDITIONS OF CONTRACT**

❖ *Cl-3.4 THE TENDER /OFFER & ITS PRE-REQUISITES*

Table under sub-clause (a)

PREVIOUS			AS AMENDED		
Estimated Value of Work	Amount of Earnest Money		Estimated Value of Work	Amount of Earnest Money	
	For Works Contract	For Contract of Supplying Materials or Equipment only		For Works Contract	For Contract of Supplying Materials or Equipment only
Up to Rs. 1,00,000=00	5% of the estimated value of work	1% of the estimated value of work	Up to Rs. 10 Crore	2% of the estimated value of work	1% of the estimated value of work
Over Rs. 1,00,000.00	2% of the estimated value of work subject to a maximum of Rs. 20,000/- and minimum of Rs. 5,000/-.	½% of the estimated value of work subject to a maximum of Rs. 10,000/- and minimum of Rs. 1,000/-.	Over Rs. 10 Crore	2% on first Rs. 10 Crore + 1% on the balance	½% of the estimated value of work subject to a maximum of Rs. 10,000/- and minimum of Rs. 1,000/-.

[AMENDMENT SANCTIONED BY THE BOARD OF TRUSTEES VIDE RESOLUTION NO 210 OF THE TRUSTEES' MEETING HELD ON 26.02.2013]

Table under sub-clause (d)

PREVIOUS			AS AMENDED		
Class of Registration	Amount Of Fixed Security	Financial Limit Of Each Tender	Class of Registration	Amount Of Fixed Security	Financial Limit Of Each Tender
A	Rs 10,000/-	Any tender priced upto Rs 2,00,000/-	A	Rs 50,000/-	Any tender priced up to Rs 10,00,000/-
B	Rs 5,000/-	Any tender priced upto Rs 1,00,000/-	B	Rs 25,000/-	Any tender priced upto Rs 5,00,000/-
C	Rs 2,500/-	Any tender priced upto Rs 50,000/-	C	Rs 15,000/-	Any tender priced upto Rs 3,00,000/-

[AMENDMENT SANCTIONED BY THE BOARD OF TRUSTEES VIDE RESOLUTION NO 82 OF THE TRUSTEES' MEETING HELD ON 12.10.2012]

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

## GC - 2

### 1. DEFINITIONS

- 1.0 In the contract, as here in after defined, the following words and expressions shall have the meaning herein assigned to them, except where the context otherwise required.
- 1.1 “Employer” or “Board” or “Trustees” means of the Board of Trustees for the Port of Calcutta, a body corporate under Section 3 of the Major Port Trusts Act, 1963, including their successors, representatives and assigns. *Employer*
- 1.2 “Chairman” means the Chairman of the Board and includes the person appointed to act in his place under Sections 14 and 14A of the Major Port Trusts Act, 1963. *Chairman*
- 1.3 “Contractor” means the person or persons, Firm or Company whose tender/offer has been accepted by the Trustees and includes the Contractor’s representatives, heirs, successor and assigns, if any, permitted by the Board/Chairman. *Contractor*
- 1.4 “Engineer” means the Board’s official who has invited the tender on its behalf and includes the Manager (Infrastructure & Civic Facilities) or other official as may be appointed from time to time by the Employer, with written notification to the Contractor, to act as Engineer for the purpose of the Contract, in place of the “Engineer” so designated. *Engineer*
- 1.5 “Engineer’s Representative” means any subordinate or Assistant to the Engineer or any other official appointed from time to time by the Engineer to perform the duties set forth in Clauses 2.4 to 2.6 hereof. *Engineer’s Representative*
- 1.6 “Work” means the work to be executed in accordance with the Contract and includes authorised “Extra Works” and ‘Excess Works” and “Temporary Works”. *Works*
- 1.7 “Temporary Works” means all temporary works of every kind required in or about the execution, completion or maintenance of the works and includes (without thereby limiting the foregoing definitions) all temporary erections, scaffolding, ladders, timbering, soaking vats, site offices, cement and other godowns, platforms and bins for stacking building materials, gantries, temporary tracks and roads, temporary culverts and mixing platforms. *Temporary works*
- 1.8 “Extra Works” means those works required by the Engineer for completion of the Contract which were not specifically and separately included in the schedule of items of the works i.e. (Bill of Quantities) of the tender. “Excess Works” means the required quantities of work in excess of the provision made against any item of the bill of Quantities. *Extra works and Excess works*
- 1.9 “Specifications” means the relevant and appropriate Bureau of Indian Standard’s specifications / International Standard’s Specifications (latest revisions) for materials and workmanship unless stated otherwise in the Tender. *Specification*



- “Drawings” means the drawings referred to in the Tender and specification and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- 1.10 *Drawings*
- 1.11 “Contract” means and includes the General and Special Conditions of Contract, Specifications, Drawings, priced Bill of Quantities, the Tender / Offer, the letter of acceptance of the Tender/Offer, the Contract Agreement, if separately entered into and the Schedule of Rates and Price, if any, adopted by the Trustees at their discretion.
- 1.12 *Contract*
- 1.12 “Constructional Plant” means all appliances or things of whatsoever nature required or about the execution, completion or maintenance of the works or temporary works and includes (without thereby limiting the foregoing definition) all machinery and tools but does not include materials or other things intended to form or forming part of the permanent works.
- 1.13 *Constructional Plant*
- 1.13 “Site” means the land, waterways and other places, on, under, in or through which the works are to be executed by the Trustees for the purpose of the Contract.
- 1.14 *Site*
- 1.14 “Contract Price” means the sum named in the letter of acceptance of the Tender/Offer of the Contractor, subject to such additions thereto and deductions therefrom as may be made by the Engineer under the provisions here in after contained.
- 1.15 *Contract Price*
- 1.15 “Month” means English Calendar Month.
- 1.16 *Month*
- 1.16 “Excepted Risks” are riot in so far as it is uninsurable, war, invasion, act of foreign enemies, hostilities) whether war be declared or not), Civil War, rebellion, revolution, insurrection or military or usurped power or use or occupation by the Trustees of any portion of the works in respect of which a certificate of completion has been issued (all of which are herein collectively referred to as the excepted risks).
- 1.17 *Excepted Risks*
- 1.17 Word importing the singular only, also includes the plural and vice-versa where the context so requires.
- 1.18 *Singular/ Plural*
- 1.18 The heading and marginal notes in these General Conditions of Contract shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 1.19 *Headings/ Marginal Notes.*
- 1.19 Unless otherwise stipulated the work “Cost” shall be deemed to include overhead costs of the Contractor, whether on or off the site.
- 2.0 *Cost*
- 2.0 DUTIES & POWERS OF ENGINEER & ENGINEER’S REPRESENTATIVE.
- 2.1 *Engineer’s Authority*
- 2.1 The Contractor shall execute, compete and maintain the works in terms of the contract to the entire satisfaction of the Engineer and Shall comply with the Engineer’s direction on any matter whatsoever.

- 2.2 The Contractor shall take instructions from the Engineer and subject to limitation of Clause 2.5 hereof, from the Engineer's Representative. *Authority of Engineer's Representative*
- 2.3 *The Engineer shall have full power and authority:* *Engineer's Power*
- (a) to supply to the contractor from time to time during the progress of the works such further drawings and instructions as shall be necessary for the purpose of proper and adequate execution and maintenance of the works and the contractor shall carry out and be bound by the same.
  - (b) to alter or modify the specification of any material and workmanship and to inspect the work at any time.
  - (c) to order for any variation, alteration and modification of the work and for extra works.
  - (d) to issue certificates as per contract.
  - (e) to settle the claims & disputes of the Contractor and Trustees, as the first referee.
  - (f) To grant extension of completion time.
- 2.4 *The Engineer's Representative shall :* *Power of Engineer's Representative.*
- (i) watch and supervise the works.
  - (ii) test and examine any material to be used or workmanship employed in connection with the work.
  - (iii) have power to disapprove any material and workmanship not in accordance with the contract and the contractor shall comply with his direction in this regard.
  - (iv) take measurements of work done by the contractor for the purpose of payment or otherwise.
  - (v) order demolition of defectively done work for its reconstruction all by the Contractor at his own expense.
  - (vi) have powers to issue alteration order not implying modification of design and extension of completion time of the work and
  - (vii) have such other powers and authorities vested in the Engineer, which have been delegated to him in writing by the Engineer under intimation to the Contractor.

2.5 *Provided always that the Engineer's Representative shall have no power:*

*Limitation of  
Engineer's  
Representative's  
Power*

- (a) to order any work involving delay or any extra payment by the Trustees,
- (b) to make variation of or in the works; and
- (c) to relieve the Contractor of any of his duties or obligations under the Contract.

2.6 Provided also as follows:

*Engineer's  
Overriding Power*

- (a) Failure of Engineer's Representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or materials and to order the pulling down, removal, breaking-up thereof and re-constructing at the contractor's cost and the contractor shall have no claim to compensation for the loss if any sustained by him.
- (b) If the contractor shall be dissatisfied by reason of any decision of the Engineer's Representative, he shall be entitled to refer the matter to the Engineer who shall thereupon confirm, reverse or vary such decision.
- (c) Any written instructions or written approval given by the Engineer's Representative to the contractor, within the terms of delegation of power and authority vested in the Engineer to his Representative in writing, shall bind the contractor and the Trustees as though it had been given by the Engineer, who may from time to time make such delegation.

### 3.0 THE TENDER/OFFER AND ITS PRE-REQUISITES

3.1 The Contractor shall, before making out and submitting his tender/offer, be deemed to have inspected and examined the site, fully considered all factors, risks and contingencies, which will have direct and indirect impact on his expenses and profit from the work and shall be specifically deemed to have taken the following aspects into consideration:

*The tender must  
encompass all  
relevant aspects/  
issues.*

(a) The form and nature of the site and its surroundings including their sub-surface, hydrological, tidal and climatic conditions, the means of access to the site and all other local conditions, including the likely charges and costs for temporary way-leave, if any, required for the work.

*Site & Local  
condition.*

(b) The drawings, specifications, the nature and extent of work to be executed and the quality, quantity and availability of the required materials and labour for the work and the need to execute the work to the entire satisfaction of the Engineer, and also by complying with the General and Special Conditions of Contract.

*Drawing/  
Specification/  
Nature &  
extent of  
work to be  
done.*

(c) The accommodation required for the workmen and site office, mobilisation/demobilisation and storage of all plant, equipment and Construction materials.

*Accommodation for Contractor's men/materials.*

(d) The sources and means of procurement of water for drinking, washing and execution of work, and source and availability of electrical power, all at Contractor's cost.

*Water for drinking etc. /Electrical power.*

(e) Payment of taxes and duties and compliance of all applicable statutes, ordinances and law together with the rules made thereunder, the rules, regulations and bye-laws of public bodies or any local or other authority by the Contractor, keeping the Trustees indemnified against penalties and liabilities of every kind arising from the Contractor's failure in such compliance.

*Payment of Taxes/duties and observance of all statutes.*

(f) Payment of all kinds of stamp-duty for executing the agreement or for any legal instrument including Bank Guarantees and Indemnity Bonds.

*Payment of Stamp Duty by the Contractor.*

3.2 The Contractor's tender shall be in ink on the Tender Forms supplied by the Trustees, unless stipulated otherwise in the Notice Inviting the Tender and shall be faultless in figures and free from erasing. Corrections, if any, shall only be made by scoring out and initialling of the revised figure.

3.3 If required by the Engineer or the Trustees, the Contractors in their tender or subsequently, shall disclose the names of their owners/partners/share holders at the required points of time. The failure in this regard shall be treated as a breach and a contract, if entered into, shall be liable to be cancelled.

*Disclosure of Owner's name.*

3.4 (a) Unless otherwise stipulated in the Notice Inviting Tender / Offer, every tender must be submitted with Earnest Money of the amount calculated as per the following scale.

*Earnest Money and Security Deposit.*

Estimated Value of Work	Amount of Earnest Money	
	For Works Contract	For Contract of Supplying Materials or Equipment only
Up to Rs. 1,00,000=00	5% of the estimated value of work	1% of the estimated value of work
Over Rs. 1,00,000=00	2% of the estimated value of work subject to a maximum of Rs. 20,000/- and minimum of Rs. 5,000/-.	½% of the estimated value of work subject to a maximum of Rs. 10,000/- and minimum of Rs. 1,000/-.

(b) Earnest Money shall be deposited with the Trustees' treasurer in cash or by Banker's Cheque of any Calcutta Branch of a Nationalised Bank of India drawn in favour of Calcutta Port Trust or in the form of any "Account Payee" Draft of any Nationalised Bank of India drawn in favour of "Calcutta Port Trust" and payable at Calcutta/Haldia, as the case may be, and the receipt granted therefor be kept attached to the Tender/Offer in the Sealed Cover.

*Method of  
Paying E.M.*

(c) Earnest Money of unaccepted tender shall be refunded without any interest through A/c. Payee Cheque drawn on a Nationalised Bank of Calcutta / Haldia.

*Refund of E.M.*

(d) The enlisted (registered) Contractors of the Trustees who have deposited fixed Security with the Trustees' FA & CAO / Manager (Finance) according to his Class of Registration, shall be exempt from depositing the Earnest Money, as per the following scale:

*Exemption from  
E.M. to Regd.  
Firms*

Class of Registration	Amount of Fixed Security	Financial Limit of Each Tender
A	Rs. 25,000/-	Any tender priced up to Rs.5,00,000/-
B	Rs. 10,000/-	Any tender priced up to Rs.2,00,000/-
C	Rs. 5,000/-	Any tender priced up to Rs.1,00,000/-

(e) (i) Tender submitted without requisite Earnest Money may be liable to rejection.

*Tender with-  
out EM liable to  
rejection.*

(ii) If before expiry of the validity period of his Tender/Offer, the tenderer amends his quoted rates or tender/offer making them unacceptable to the Trustees and/or withdraws his tender/offer, the Earnest Money deposited shall be liable to forfeiture at the option of the Trustees.

*Forfeiture of  
E.M. before  
Acceptance of  
offer.*

(f) The Earnest Money of accepted tender/offer shall be retained by the Trustees as part of the Security Deposit, for which a separate Treasury Receipt shall be issued to the Contractor after cancellation of the previous Receipt of Earnest Money.

*E.M. to be  
converted to  
part S.D.*

(g) Balance security for works contract shall be recovered by deduction from all progressive Bill (including final Bill, if necessary) @ 10% of the gross value of work in each such bill, so that the total recovery may not exceed the quantum computed as per the under noted percentages of the total value of work actually done up to the stage of completion.

*Mode of  
recovery of  
balance S.D.*

Value of Work	% of Security Deposit for works contract.	% of Security Deposit For contract of supply-ing materials & equipment only.
For works up to Rs.10,00,000/-.	10% (Ten percent)	1% (One percent)
For works costing more than Rs.10,00,000/- and up to Rs.20,00,000/-	10% on first Rs.10,00,000/- + 7½% on the balance.	1% on first Rs.10,00,000/- + ½% on the balance.
For works costing more than Rs.20,00,000/-	10% on first Rs.10,00,000/- + 7½% on the next Rs.10,00,000/- + 5% on the balance.	1% on first Rs.10,00,000/- + ½% on the next Rs.10,00,000/- + ¼% on the balance.

*Scale of S.D. recovery.*

(h) Balance Security for Contract of supplying materials and equipment computed in terms of the percentages given above, shall have to be deposited with the Trustees' Treasurer in advance and within 30 days from the date of placement of supply order, either in cash or by A/c. Payee Draft of a Nationalised Bank of India drawn in favour of Calcutta Port Trust and payable at Calcutta/Haldia, as the case may be.

*S.D. for supply contracts to be deposited in advance.*

(i) No interest shall be paid by the Trustees to the Tenderer/Contractor on the amount of Earnest Money/Security Deposit held by the Trustees, at any stage.

*No interest payable on E.M. /S.D*

3.5 (i) The Security Deposit shall refunded to the Contractor in terms of Clause 9.3 hereinafter and subject to deduction, if any, under the provision of Sub-clause 3.5 (ii) herein below. Id, however, the Contract provides for any maintenance period. 50% of the Security Deposit may be refunded against any of the treasury Receipt for that amount on expiry of half of the maintenance period and the balance deposit on the expiry of the said maintenance period and after the Engineer has certified the final completion of work in Form G.C.2 and the Contractor has submitted his "No Claim" Certificate in Form G.C.3.

*Mode of refund of S.D.*

(ii) The Security Deposit/Earnest Money may be liable to forfeiture at the option of the Trustees, if the Contractor fails to carry out the work or to perform/observe any of the conditions of the Contract. The Trustees shall also be at liberty to deduct any of their dues from the Security Deposit, fixed Security, Earnest Money or from any sum due or to become due to the Contractor under any other contract.

*Forfeiture of S.D.*

- 3.6 If stipulated in the contract as a Special Condition, the contractor shall have to submit to the Engineer a performance Bond in the form of an irrevocable guarantee from Calcutta/Haldia Branch, as the case may be, of any Nationalised Bank of India in the proforma annexed hereto and for the sum and period as mentioned in the letter of acceptance of the Tender/Offer, within 15 days from the date of such letter, failing which the Contract shall be liable to be terminated and the earnest money shall be liable to forfeiture; all at the discretion of the Engineer. The cost of obtaining this or any other Bank Guarantee and/or the revalidation thereof, wherever required, has to be borne by the Contractor and it shall be his sole responsibility to arrange for timely revalidation of such Bank Guarantee, failing which and for non-fulfilment of any contractual obligation by the Contractor, the Engineer and/or the Trustees shall be at liberty to raise claim against the Guarantee and/or enforce the same unilaterally.
- Bank Guarantee  
in lieu of Cash  
S.D. in certain  
cases*
- 3.7 “Every Tenderer/ Bidder shall submit, in respect of a tender value of more than Rs 5 Crore, along with their tender comprising Special Conditions of Contract, General Conditions of Contract, BOQ, Earnest Money, etc. a document called Integrity Pact Agreement duly signed by their authorized representative. The Proforma of the Integrity Pact Agreement shall as specified in the GCC. In case of tender value more than Rs 5 Crore, the Integrity Pact Agreement is an essential part and parcel of bid document to be submitted by each tenderer, without which the tender shall not be considered.”
- 4.0 THE CONTRACT & GENERAL OBLIGATIONS OF CONTRACTOR
- 4.1 (a) The contract documents shall be drawn-up in English language.
- English language  
to be used*
- (b) The contract shall be governed by all relevant Indian Acts. As applicable only within the jurisdiction of the High Court at Calcutta, India, including the following Acts:
1. The Contract Act (India), 1872.
  2. The Major Port Trusts Act, 1963.
  3. The Workmen’s Compensation Act, 1923.
  4. The Minimum Wages Act, 1948.
  5. The Contract Labour (Regulation & Abolition) Act, 1970.
  6. The Dock Workers’ Act, 1948.
  7. The Arbitration and Conciliation Act (1996) (in the case of a definite Arbitration Agreement only).
- Applicability of  
laws on the  
contract*
- 4.2 After acceptance of his Tender/Offer and when called on to do so by the engineer or his representative, the contractor shall, at his own expense, enter into and execute a Contract Agreement to be prepared by him in the form annexed hereto. Until such Contract Agreement is executed, the other documents referred to in the definition of the term ‘Contract’ here-in-before, shall collectively be the Contract.
- Contractor to  
Execute Contract  
Agreement.*
- 4.3 Several documents forming the contract are to be taken as mutually explanatory of one another. Should there be any discrepancy, ambiguity, omission or error in the various contract documents, the Engineer shall have the power to correct the same and his decision shall be final and binding on the parties to the Contract.
- Interpretation of  
contract  
documents –  
Engineers’ Power*

- 4.4 Two copies of the Drawings referred to in the general and special Conditions of Contract and in the Bill of Quantities, shall be furnished by the Engineer to the Contractors free of cost for his use on the work, but these shall remain the property of the Trustees and hence, the Contractor shall return them to the Engineer or his Representative on completion of the work, if not torn or mutilated on being regularly used at site. *All Drawings are Trustees' property.*
- 4.5 The Contractor shall prove and make at his own expense any working or progress drawings required by him or necessary for the proper execution of the works and shall, when required, furnish copies of the same free of cost to the Engineer for his information and/or approval, without meaning thereby the shifting of Contractor's responsibility on the Engineer in any way whatsoever. *Contractor to prepare working / progress drawings*
- 4.6 The Contractor shall not directly or indirectly transfer, assign or sublet the Contract or any part thereof without the written permission of the Engineer. Even if such permission be granted, the Contractor shall remain responsible (a) for the acts, defaults and neglect of any sub-contractor, his agents, servants or workmen as fully as if these were the acts, defaults or neglects of the Contractor himself or his agents, servants or workmen and (b) for his full and entire responsibility of the contract and for active superintendence of the works by him despite being sublet, provided always that the provision of labourers on a "piece rate" basis shall not be deemed to be sub-letting under this clause. *Contractor cannot sub-let the work*
- 4.7 Unless otherwise specified, the Contractor shall be deemed to have included in his Tender/Offer all his cost for supplying and providing all constructional plant, temporary work. Materials both for temporary and permanent works, labour including supervision thereof, transporting to and from the site and in and about the work, including loading, unloading, fencing, watching, lighting, payment of fees, taxes and duties to the appropriate authorities and other things of every kind required for the construction, erection, completion and maintenance of the work. *Contractors' price is inclusive of all costs*
- 4.8 The Contractor shall be solely responsible for the adequacy, stability and safety of all site operations and methods of construction, even if any prior approval thereto has been taken from the Engineer or his Representative. The Contractor shall not be responsible for the correctness of the design or specification of the Temporary and Permanent works formulated by the Engineer; but the Contractor shall be fully responsible for the correct implementation thereof, as also for any design and specification prepared/proposed/used by the Contractor. *Contractor is responsible for all construction process, except for correctness of design and specification formulated by the Engineer*
- 4.9 Whenever required by the Engineer or his representative, the Contractor shall submit to him the details of his (a) programme for execution of the work, (b) proposed procedure and methods of work, (c) proposed deployment of plant, equipment, labour, materials and temporary works. The submission to and/or any approval by the Engineer or his Representative to any such programme or particulars shall not relieve the Contractor of any of his obligations under the contract. *Contractor to submit his programme of work*



If for any reason the contractor be unable to adhere to his earlier programme, he shall submit his revised programme for completion of work within the stipulated time whenever asked to do so.

- 4.10 Necessary and adequate supervision shall be provided by the Contractor during execution of the works and as long thereafter as the Engineer or his representative shall consider necessary during the maintenance period. The Contractor or his competent and authorised agent or representative shall be constantly at site and instructions given to him by the Engineer or his representative in writing shall be binding upon the Contractor subject to limitation in Clause 2.5 hereof. The Contractor shall inform the Engineer or his representative in writing about such representative/agent of him at site. *Contractor to supervise the works*
- 4.11 The Contractor shall employ in execution of the Contract only qualified careful and experienced persons and the Engineer shall be at liberty to direct the Contractor to stop deployment of any of is staff, workmen or official at site and the Contractor shall within 48 hours comply with such instruction without any demur whenever the Engineer shall feel that the deployment of the person concerned will not be conducive to the proper and timely completion of the work. *Contractor to deploy qualified men and Engineer's power to remove Contractor's men*
- 4.12 The Contractor shall be responsible for the true and proper setting out of the works in relation to reference points/lines/levels given by the Engineer in writing. The checking of any setting-out or of any alignment or level by the Engineer or his Representative shall not in any way relieve the contractor of his responsibility for the correctness thereof and he shall fully provide protect and preserve all stakes, templates, bench marks, sight rails, pegs, level marks, profile marks and other things used in setting out the works. *Contractor is responsible for line, level, setting out etc.*
- 4.13 From the commencement of the works till issue of the completion certificate in Form G.C.1, vide Clause 5.12 hereof, the contractor shall take full responsibility for the care thereof. Save for the excepted risks, any damage, loss or injury to the work or any part thereof shall be made good by the Contractor at his own cost as per instruction and to the satisfaction of the engineer, failing which the Engineer or his Representative may cause the same to be made good by any other agency and the expenses incurred and certified by the Engineer shall deem proper. This Clause will not apply to that part of the work, which might have been taken over by the Trustees on partial completion of the work and in such case the Contractor's obligation will be limited to repairs and replacement for manufacturing or construction defects during the Maintenance period (Guarantee Period) as per the directions of the Engineer as also for defects/damages if any caused to the work by the Contractor during such repairs and replacement in the maintenance period. *Contractor is responsible to protect the work*

- 4.14 The Contractor shall at his own cost protect support and take all precautions in regard to the personnel or structure or services or properties belonging to the Trustees or not which may be interfered with or affected or disturbed or endangered and shall indemnify and keep indemnified the Trustees against claim for injury, loss or damage caused by the Contractor in connection with the execution and maintenance of the work to the aforesaid properties, structures and services and/or to any person including the Contractor's workmen. Cost of Insurance Cover, if any, taken by the Contractor shall not be reimbursed by the Trustees, unless otherwise stipulated in the Contract.
- Contractor is responsible for all damages to other structures / persons caused by him in executing the work.*
- 4.15 The Contractor shall immediately inform the Engineer's Representatives if any fossil, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological importance be discovered at site which shall remain the property of the Trustees and protect them from being damaged by his workmen and arrange for disposal of them at the Trustees' expense as per the instruction of the Engineer's Representative.
- Fossils, Treasure travois, etc. are Trustees' property*
- 4.16 The Contractor shall be deemed to have indemnified and shall indemnify the Trustees against all claims, demands, actions and proceedings and all costs arising therefrom on account of :
- Contractor to Indemnify the Trustees against all claims for loss, damage, etc.*
- (a) Infringement of any patent right, design, trademark or name or other protected right in connection with the works or temporary work.
  - (b) Payment of all royalties, rent, toll charges, local taxes, other payments or compensation, if any, for getting all materials and equipment required for the work.
  - (c) Unauthorised obstruction or nuisance caused by the contractor in respect of Public or Private or Private road, railway tracks, footpaths, crane tracks, waterways, quays and other properties belonging to the Trustees or any other person.
  - (d) Damage/injury caused to any highway and bridge on account of the movement of Contractor's plants and materials in connection with the work.
  - (e) Pollution of waterway and damage caused to river, lock, sea-wall or other structure related to waterway, in transporting contractor's plants and materials.
  - (f) The Contractor's default in affording all reasonable facilities and accommodation as per the direction of the Engineer or his Representative to the workmen of the Trustees and other agencies employed by or with the permission and/or knowledge of the Trustees on or near the site of work.
- 4.17 Debris and materials, if obtained by demolishing any property, building or structure in terms of the Contract shall remain the property of the Trustees.
- Dismantled materials Trustees' property*

4.18 The Contractor's quoted rates shall be deemed to have been inclusive of the following:

*Contractor's  
quoted rates/price  
must be all  
inclusive*

- (a) Keeping the site free of unnecessary obstruction and removal from site of constructional plant wreckage, rubbish, surplus earth or temporary works no longer required.
- (b) Cleaning and removal from site all the surplus materials of every kind to leave the site clean and tidy after completion of the work, without which payment against final bill may be liable to be withheld.
- (c) Precautionary measures to secure efficient protection of Docks, the River Hooghly and other waterways against pollution of whatever nature during execution and maintenance of the works and to prevent rubbish, refuse and other materials from being thrown into the water by the Contractor's men or those of his agency.
- (d) Making arrangements for deployment of all labourer and workers, local or otherwise including payment for their wages, transport, accommodation, medical and all other statutory benefits and entry permits, wherever necessary.
- (e) Making arrangements in or around the site, as per the requirements of local authority or the Engineer or his Representative for preventing (i) spread of any infectious disease like smallpox, cholera, plague or malaria by taking effective actions for destruction of rats, mice, vermin, mosquitoes, etc. and by maintaining healthy and sanitary condition, (ii) illegal storage and distribution of Drugs, Narcotics, Alcoholic liquor, Arms and Ammunitions, (iii) unlawful, riotous or disorderly conduct of the Contractor's or his Sub-Contractor's workmen, (iv) deployment of workmen of age less than 16 years.

4.19 Every direction or notice to be given to the Contractor shall be deemed to have been duly served on or received by the Contractor, if the same is posted or sent by hand to the address given in the tender or to the Contractor's Site Office or to the Registered Office of the Contractor. The time mentioned in these conditions for doing any act after direction or notice shall be reckoned from the time of such posting or despatch.

*Notice to  
Contractor.*

4.20 The Contractor and his Sub-contractor or their agents and men and any firm supplying plant, materials and equipment shall not publish or caused to be published any photographs or description of the works without the prior authority of the Engineer in writing.

*Contractor not to  
publish  
photograph or  
particulars of work*

- 4.21 The Contractor shall at the Trustees' cost to be decided by the Engineer render all reasonable facilities and Co-operation as per direction of the Engineer or his representative to any other Contractor engaged by the Trustees and their workmen to the Trustees' own staff and to the men of other Public Body on or near the site of work and in default the Contractor shall be liable to the Trustees for any delay or expense incurred by reason of such default. *Contractor to provide facilities to outsiders*
- 4.22 The work has to be carried out by the Contractor causing the minimum of hindrance for any maritime traffic or surface traffic. *Work to cause minimum possible hindrance to traffic movement*
- 4.23 All constructional plants, temporary works and materials when brought to the site by the Contractor shall be deemed to be the property of the Trustees who will have lien on the same until the satisfactory completion of the work and shall only be removed from the site in part or in full with the written permission of the Engineer or his Representative. *Trustees' lien on Contractor's Plant & Equipment.*
- 5.0 COMMENCEMENT, EXECUTION AND COMPLETION OF WORK.
- 5.1 The Contractor shall commence the work within 7 days of the receipt of Engineer's letter informing acceptance of the Contractor's tender/offer by the Trustees or within such preliminary time as mentioned by the Contractor in the Form of Tender or the time accepted by the Trustees. The Contractor shall then proceed with the work with due expedition and without delay, except as may be expressly sanctioned or ordered by the Engineer or his Representatives, time being deemed the essence of the contract on the part of the contractor. *Preliminary time to commence work an maintenance of steady rate of progress*
- 5.2 The Contractor shall provide and maintain a suitable office at or near the site to which the Engineer's Representative may send communications and instructions for use of the Contractor. *Contractor's site office*
- 5.3 Unless specified otherwise in the contract or prior permission of the Engineer has been taken, the contractor shall not execute the work beyond the working hours observed by the Engineer's Representative and on Sundays and Holidays observed in the Trustees' system, except in so far as it becomes essential on account of tidal work or for safety of the work. If the progress of the work lags behind schedule or the work has been endangered by any act or neglect on the part of the contractor, then the Engineer or his Representative shall order and the contractor at his own expense shall work by day and by night and on Sundays and Public Holidays. Any failure of the Engineer or his Representative to pass such an order shall not relieve the contractor from any of his obligations. The Engineer's decision in this regard shall be final binding and conclusive. *Contractor to observe Trustees' working hours*

- 5.4 Unless stipulated otherwise in the contract all materials required for the work shall be procured and supplied by the contractor with the approval of the Engineer or his Representative and subject to subsequent testing as may be required by the Engineer or his Representative. The Engineer shall exercise his sole discretion to accept any such materials. *Contractor to supply all materials as per requirement of the Engineer or his representative*
- 5.5 Unless stipulated otherwise in the contract all materials, workmanship and method of measurement shall be in accordance with the relevant Codes (Latest Revision) of the Bureau of Indian Standards and the written instructions of the Engineer or his Representative. Where no specific reference is available in the contract, the material and workmanship shall be of the best of their respective kinds to the satisfaction of the Engineer. *Materials & Works*
- 5.6 Samples shall be prepared and submitted for approval of the Engineer or his representative, whenever required to do so, all at the Contractor's cost. *Contractor to submit samples for approval*
- Unless stipulated otherwise in the contract, the cost of any test required by the Engineer or his representative in respect of materials and workmanship deployed on the work, shall be borne by the Contractor. *Contractor to arrange all testing at his own cost.*
- 5.8 Regarding the supply of any materials by the Trustees to the contractor in accordance with the contract, the following conditions shall apply :
- (a) The Contractor shall, at his own expense, arrange for transporting the materials from the Trustees' Stores, watching, storing and keeping them in his safe custody, furnishing of statement of consumption thereof in the manner required by the Engineer or his representative, return of surplus and empty container to the Trustees' Stores as per the direction of the Engineer or his Representative. *The Contractor shall account for and look after the Trustees' materials*
- (b) Being the custodian of the Trustees' materials, the contractor shall remain solely responsible for any such materials issued to him and for any loss or damage thereof for any reason other than "Excepted Risks", the Contractor shall compensate the Trustees' in the manner decided by the Engineer and shall at no stage remove or cause to be removed any such material from the site without his permission in writing. *Contractor to compensate for loss and damage to Trustees' materials*
- (c) The Trustees' materials will generally be supplied in stages and in accordance with the rate of progress of work but except for grant of suitable extension of completion time of work as decided by the Engineer. The Contractor shall not be entitled to any other compensation, monetary or otherwise, for any delay in the supply of Trustees' materials to him. The Contractor shall, however, communicate his requirement of such materials to the Engineer from time to time. *Delay in supply of Trustees' materials will only entitle the Contractor for extension of completion time of work*

(d) Unless stipulated otherwise in the contract, the value of the Trustees' materials issued to the contractor shall be recovered from the contractor's bills and/or any of his other dues, progressively according to the consumption thereof on the work and/or in the manner decided by the Engineer or his representative and at the rate/s stipulated in the contract. These rates shall only be considered by the contractor in the preparation of his tender/offer and these will form the basis of escalation/variation, if in future the contractor is required to procure and provide any such material on the written order of the Engineer consequent on the Trustees' failure to effect timely supply thereof.

*Recovery from Contractor for Trustees' materials under normal circumstances*

(e) If the Engineer decides that due to the contractor's negligence, any of the Trustees' materials issued to the contractor has been – (i) lost or damaged, (ii) consumed in excess of requirement and (iii) wasted by the contractor in excess of normal wastage, then the value thereof shall be recovered from the contractor's bills or from any of his other dues, after adding 19 ¼% extra over the higher one of the followings -

*Recovery from Contractor for Trustees' materials under other circumstances.*

(1) The issue rate of the materials at the Trustees' Stores and

(2) The market price of the material on the date of issue as would be determined by the Engineer.

5.9 The Engineer or his Representative shall have the power to inspect any material and work at any time and to order at any time – (I) for removal from the site of any material which in his opinion is not in accordance with the contract or the instruction of the engineer or his representative, (ii) for the substitution of the proper and suitable materials, or (iii) the removal and proper re-execution of any work which in respect of material and workmanship is not in accordance with the contract or the instructions of the Engineer. The Contractor shall comply with such order at his own expense and within the time specified in the order. If the contractor fails to comply, the Engineer shall be at liberty to dispose any such materials and re-do any work in the manner convenient to the Trustees by engaging any outside agency at the risk and expense of the contractor and after giving him a written prior notice of 7 days.

*Contractor to replace materials/work not acceptable to the Engineer or his Representative*

5.10 No work shall be covered up and put out of view by the contractor without approval of the Engineer or his Representative and whenever required by him, the contractor shall uncover any part or parts of the work or make openings in or through the same as may be directed by the Engineer or his representative from time to time and shall reinstate or make good those part of works thus affected to the satisfaction of the Engineer, all at the cost of the contractor.

*Contractor to seek approval of Engineer or his Representative before covering up any portion of work*

The Trustees shall reimburse such cost as determined by the Engineer, if the initial covering up was with prior written order of the Engineer or his Representative.

5.11 On a written order of the Engineer or his Representative, the contractor shall delay or suspend the progress of the work till such time the written order to resume the execution is received by him. During such suspension the contractor shall protect and secure the work to the satisfaction of the Engineer or his Representative. All extra expenses in giving effect to such order shall be considered by the Trustees, unless such suspension is –

*Contractor to  
suspend work on  
Order from  
Engineer or his  
Representative*

- (a) otherwise provided for in the contract, or
- (b) necessary by reason of some default on the part of the contractor, or
- (c) necessary by reason of climatic conditions on the site, or
- (d) necessary for proper execution of the works or for the safety of the works or any part thereof.

The Engineer shall settle and determine such extra payment and/or Extension of completion time to be allowed to the contractor, as shall, in the opinion of the Engineer be fair and reasonable, and the same shall be final and binding on the Contractor.

5.11.1 If at any time before or after commencement of the work the Trustees do not require the whole of the work tendered for the Engineer shall notify the same to the contractor in writing and the contractor shall stop further works in compliance of the same. The Contractor shall not be entitled to any claim for compensation for underived profit or for such premature stoppage of work or on account of curtailment of the originally intended work by reason of alteration made by the Engineer in the original specifications, drawings, designs and instructions.

5.12 When the whole of the work has been completed to the satisfaction of the Engineer and has passed any final test prescribed in the contract, the contractor shall, within 21 days of submission of his application to the Engineer, be entitled to receive from him a certificate for completion of work in Form G.C.1, annexed hereto. If any part of the total work having been completed to the satisfaction of the Engineer, be taken over and/or used by the Trustees, the Contractor shall on application be entitled to partial completion certificate in the Form G.C.1 indicating the portion of the work covered by it, so that the Contractor's liability during maintenance period of the contract, if any, shall commence from the date mentioned in such certificate so far as the completed portion of the work is concerned.

*Completion  
Certificate G.C.1.*

## 6.0 TERMS OF PAYMENT:

- 6.1 No sum shall be considered as earned by or due to the Contractor in respect of the work till final and satisfactory completion thereof and until a certificate of final completion in Form G.C.2 has been given by the Engineer.

*All interim payments are advances till issue of Certificate in Form G.C.2*

On account payments, if any, made prior to issue of the certificate in Form G.C.2, shall all be treated as mere advance, which shall stand recoverable in full or in part, if the Engineer so decides in the context of Contractor's unfulfilled contract condition, if any.

- 6.2 All payments shall be made to the Contractor only on the basis of measurements of actual work done, as recorded in the Trustees' measurement books and at accepted tendered or at agreed rates, as the case may be, except as otherwise provided in the contract and when the Engineer decides any other rate for change in the scope of work or omission, if any, on the part of the Contractor.

*Payment on the basis of measurements at agreed rates.*

- 6.3 For work of sanctioned tender value more than Rs.50,000/- or having an initially stipulated completion period of 4 months or more, on account payments may be made at the discretion of the Engineer or his Representative at intervals deemed suitable and justified by him. Provided always that subject to execution of work of substantial value in the context of the contract price, the interval of such on account payments shall be decided by the Engineer or his Representative, which shall ordinarily not be less than 1 month in between two payments for on account bill and/or advance.

*Limitation for on account payment*

- 6.4 Measurement for works done shall be progressively taken by the Engineer's Representative and entered in the Trustees' Measurement Book, at intervals deemed suitable and proper by him and/or the Engineer. The Contractor or his duly accredited Representative or Agent shall remain present at the time of such measurement and assist the engineer's Representative in every manner required by him. After the measurements taken have been entered in the Measurement Book, the Contractor or his Agent shall sign the Measurement Book at the end of such Measurements over the Contractor's Rubber Stamp as a token of acceptance of all such measurements, recorded above and prior to such signature. If the Contractor or his Agent fails to participate even after 3 days written notice from the Engineer's Representative, the measurement shall be taken ex-parte by the Engineer's Representative and those shall be accepted by the Contractor.

*Recording of measurements*



6.5 Based on the quantum of work and the value thereof computed in the Measurement Book, the Contractor shall type out his bill in the proforma approved by the

*Contractor to  
prepare and  
submit his bills*

Engineer and submit the same to the Engineer's Representative in quadruplicate, duly signed by him or his accredited Agent over his Rubber Stamp. The Engineer or his Representative may in his absolute discretion, allow advance payment against such bill to the extent of an amount not exceeding 75% of the "net payable" sum of the said bill, subject to adjustment thereof against the bill at the time of checking and auditing the bill at the Trustees' end. The measurement Book will not be handed over to the Contractor; but he will obtain the abstracts of quantities, amounts and recoveries to type out the bill.

6.6 At the discretion of the Engineer or his Representative and only in respect of accepted offers/where estimated amount put to tender would be Rs.2,00,000/- or more, advance payment may be made to the extent of 75% of the value of any material purchased and brought to the site by the Contractor. Provided always that –

- (i) the materials shall, in the opinion of the Engineer or his Representative be of imperishable nature,
- (ii) the value of such materials shall be assessed by the engineer or his Representative at their own discretion,
- (iii) a formal agreement has been drawn up with the contractor, under which the Trustees secure a lien on the contractor's materials,
- (iv) the materials are safe-guarded by the contractor against losses, shortage and misuse due to the contractor postponing the execution of the work or otherwise,
- (v) in the event of storage of such materials within the Trustees' protected areas in the Docks, the contractor shall submit an Indemnity Bond in the proforma and manner acceptable to Trustees' whereby the contractor shall indemnify the Trustees against all financial loss/damage, on account of loss/damage to such materials for whatever reasons,

*Advance payment  
against Non-  
perishable  
materials*

- (vi) in the event of storage of such materials outside the Trustees' protected areas the Contractor shall submit to the Engineer an irrevocable Bank Guarantee favouring the Trustees and for the same sum as is being advance, in the proforma and manner acceptable to the Trustees. The Guarantee shall be of a Calcutta/Haldia Branch of any Nationalised Bank or a Schedule Commercial Bank, as the case may be, acceptable to the Trustees and shall remain valid till the anticipated period of consumption of such materials in the work. The Bank Guarantee must bear an undertaking by the issuing Bank guaranteeing automatic payment of the guaranteed sum to the Trustees by the Bank on the date of expiry of the validity of the Guarantee, unless with the prior written approval of the Engineer on behalf of the Trustees, the Bank has extended the validity of the Guarantee.
- (vii) The amount of advance shall be recoverable from the contractor's bills or any other dues, progressively with the consumption of the materials on the basis of quantity consumed. Consequent on full recovery of the advance the Indemnity Bond/Bank Guarantee, vide Sub-clause (v) & (vi) above, shall be returned to the Contractor duly discharged by the Engineer on behalf of the Trustees.

- 6.7 No certificate of the Engineer or his representative shall protect the Contractor against or prevent the Trustees from obtaining repayment from the Contractor, in case the Engineer or his representative should overcertify for payment or the Trustees should over-pay the Contractor on any account. *Recovery for wrong and over payment*
- 6.8 No claim for interest shall be admissible or payable to the Contractor at any stage and in respect of any money or balance or Bank Guarantee, which may be due to the Contractor from the Trustees, owing to dispute or otherwise or for any delay on the part of the Trustees in making interim or final payment or otherwise. *Interest not admissible to Contractor*
- 7.0 VARIATION AND ITS VALUATION:
- 7.1 The Quantities set out in the Bill of Quantities of the tender shall be treated as estimated quantities of the work and shall never be deemed as actual or correct quantities of the works to be executed by the contractor in fulfilment of his obligation under the contract. *Quantities in Bill of Quantities of Tender*
- 7.2 The Engineer shall have the power to order the Contractor in writing to make any variation of the quantity, quality or form of the works or any part thereof that may, in his opinion, be necessary and the Contractor upon receipt of such an order shall act as follows: *Engineer's power to vary the works*

- 7.2 (a) Increase or decrease the quantity of any work included in the contract.
- (b) Omit any work included in the contract.
- (c) Change the Character or quality or kind of any work included in the contract.
- (d) Change the levels, lines, position and dimensions of any part of the work, and
- (e) Execute extra and additional work of any kind necessary for completion of the works
- 7.3 No such variation shall in any way vitiate or invalidate the contract or be treated as revocation of the contract, but the value (if any) of all such variations evaluated in accordance with the Engineer's sole decision shall be taken into account and the contract price shall be varied accordingly.
- 7.4 Provided always that written order of the Engineer shall not be required for increase or decrease in the quantity of any work upto 15% where such increase or decrease is not the result of any variation order given under this clause but is the result of the quantities exceeding or being less than those stated in the bill of quantities. Provided also that verbal order of variation from the Engineer shall be complied with by the Contractor and the Engineer's subsequent written confirmation of such verbal order shall be deemed to be an order in writing within the meaning of this clause.
- 7.5 (a) The Contractor shall not be entitled to any claim of extra or additional work unless they have been carried out under the written orders of the Engineer.
- (b) The Engineer shall solely determine the amount (if any) to be added to or deducted from the sum named in the tender in respect of any extra work done or work omitted by his order.
- (c) All extra, additional or substituted work done or work omitted by order of the Engineer shall be valued on the basis of the rates and prices set out in the contract, if in the opinion of the Engineer, the same shall be applicable. If the contract does not contain any rates or prices directly applicable to the extra, additional or substituted work, then the Engineer may decide the suitable rates on the basis of Schedule of Rates (including surcharge in force at the time of acceptance of tender), if any, adopted by the Trustees with due regard to the accepted contractual percentage, if any thereon. In all other cases the Engineer shall solely determine suitable rates in the manner deemed by him as fair and reasonable, and his decision shall be final, binding and conclusive.

*Variation by engineer do not vitiate the contract*

*Where written order for variation is not needed*

*Payment for extra or additional, or omitted work or substituted work, Engineer's powers*

- (d) If the nature or amount of any omission or addition relative to the nature or amount of the whole of the contract work or to any part thereof shall be such that, in the opinion of the Engineer, the rate of prices contained in the contract for any item of the works or the rate as evaluated under sub-clauses (b) and (c) of this clause, is by reason of such omission or addition rendered unreasonable or in-applicable, the Engineer shall fix such other rate or price as he deems proper and the Engineer's decision shall be final, binding and conclusive.

## 8.0 DELAY / EXTENSION OF COMPLETION TIME / LIQUIDATED DAMAGE / TERMINATION OF CONTRACT

- 8.1 Should the quantum of extra or additional work of any kind or delayed availability of the Trustees' materials to be supplied as per contract or exceptionally adverse climatic conditions and natural phenomenon or strikes, lock-outs, civil commotion or other special circumstances of any kind beyond the control of the Contractor, cause delay in completing the work, the contractor shall apply to the Engineer in writing for suitable extension of completion time within 7 days from the date of occurrence of the reason and the Engineer shall thereupon consider the stated reasons in the manner deemed necessary and shall either reject the application or determine and allow in writing the extension period as he would deem proper for completion of the work with or without the imposition of "Liquidated Damage" Clause (No.8.3 hereof) on the Contractor and his decision shall be final and binding on the Contractor. If an extension of completion time is granted by the Engineer without imposition of liquidated damage, from the Clause No.8.3 of the Liquidated damage shall apply from its date of expiry, if the work be not completed within the extended time, unless stated otherwise in the decision communicated by the Engineer, as aforesaid.
- Extension of completion time*
- 8.2 (a) If the Contractor fails to complete the work within the stipulated dates or such extension thereof as communicated by the Engineer in writing, the Contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, ½% (half percent) of the total value of work (contract piece) as mentioned in the letter of acceptance of the tender/offer, for every week or part thereof the work remains unfinished. Provided always that the amount of such compensation shall not exceed 10% of the said value of work. The amount of Liquidated damages shall be determined by the Engineer, which shall be final and binding.
- 'Liquidated Damage' and other compensation due to Trustees*

- (b) Without prejudice to any of their legal rights, the Trustees shall have the power to recover the said amount of compensation/damage in Sub-clause (a) of this clause, from any money due or likely to become due to the Contractor. The payment or deduction of such compensation/damage shall not relieve the Contractor from his obligation to complete the work or from any of his other obligations/liabilities under the contract and in case of the Contractor's failure and at the absolute discretion of the Engineer, the work may be ordered to be completed by some other agency at the risk and expense of the Contractor, after a minimum three days notice in writing has been given to the Contractor by the Engineer or his Representative.

- 8.3 Without being liable for any compensation to the Contractor, the Trustees may, in their absolute discretion, terminate the contract and enter upon the site and works and expel the Contractor there from after giving him a minimum 3 days' notice in writing, due to occurrence of any of the following reasons and decision of the Trustees in this respect, as communicated by the Engineer shall be final and conclusive:

*Default of the  
Contractors  
remedies &  
powers/Termination  
of Contract.*

- (i) The Contractor has abandoned the contract.
- (ii) In the opinion of the Engineer, either the progress of work is not satisfactory or the work is not likely to be completed within the agreed period on account of Contractor's lapses.
- (iii) The Contractor has failed to commence the works or has without any lawful excuse under these conditions has kept the work suspended for at least 15 days despite receiving the Engineer's or his Representative's written notice to proceed with the work.
- (iv) The Contractor has failed to remove materials from site or to dismantle or demolish and replace work for 7 days after receiving from the Engineer or his representative the written notice stating that the said materials or work were condemned and rejected by him under these conditions.
- (v) The Contractor is not executing the works in accordance with the contract or is persistently or flagrantly neglecting to carry out his obligations under the contract.
- (vi) Any bribe, commission, gift or advantage is given, promised or offered by or on behalf of the contractor to any officer, servant or representative of the Trustees or to any person on his or their behalf in relation to the obtaining or to the execution of the contract.
- (vii) The Contractor is adjusted insolvent or enters into composition with his creditors or being a company goes into liquidation either compulsory or voluntary.

- 8.3.1 Upon receipt of the letter of termination of work, which may be issued by the Engineer on behalf of the Trustees, the Contractor shall hand over all the Trustees' tools, plant and materials issued to him at the place to be ascertained from the Engineer, within 7 days of receipt of such letter.
- 8.3.2 In all such cases of Termination of work, the Trustees shall have the power to complete the work through any other agency at the Contractor's risk and expense and the Contractor shall be debited any sum or sums that may be expended in completing the work beyond the amount that would have been due to the Contractor, had he duly completed the work of the work in accordance with the contract.
- 8.3.3 Upon termination of contract, the Contractor shall be entitled to receipt payment of only 90% of the value of work actually done or materials actually supplied by him and subject to recoveries as per contract, provided the work done and materials conform to specifications at the time of taking over by the Trustees. The payment for work shall be based on measurements of actual work done and priced at approved contract rates or other rates, as decided by the Engineer. The payment for materials supplied shall be at the rates as decided by the Engineer, which shall in no case be more than market rates prevailing at the time of taking over by the Trustees. The Engineer's decision in all such case shall be final, binding and conclusive.
- 8.3.4 The Trustees shall have the power to retain all moneys due to the Contractor until the work is completed by other agency and the Contractor's liabilities to the Trustees are known in all respect.

## 9.0 MAINTENANCE AND REFUND OF SECURITY DEPOSIT

- 9.1 On completion of execution of the work the Contractor shall maintain the same for a period, as may be specified in the form of a Special Condition of the Contract, from the date mentioned in the Initial Completion Certificate in Form G.C.1. Any defect/fault, which may appear in the work during aforesaid maintenance period, arising, in the sole opinion of the Engineer or his representative, from materials or workmanship not in accordance with the contract or the instruction of the Engineer or his representative, shall, upon the written notice of the Engineer or his representative, be amended and made good by the Contractor at his own cost within seven days of the date of such notice, to the satisfaction of the Engineer or his representative, failing which the Engineer or his representative shall have the defects amended and made good through other agency at the Contractor's risk and cost and all expenses, consequent thereon or incidental thereto, shall be recoverable from the Contractor in any manner deemed suitable by the Engineer.

*Contractor's  
obligation for  
maintenance  
of work.*

- 9.2 The Contractor shall not be considered completed and the work shall not be treated as finally accepted by the Trustees, until a Final Completion Certificate in Form G.C.2 annexed hereto shall have been signed and issued by the Engineer to the contractor after all obligations under the Contract including that in the maintenance period, if any, have been fulfilled by the Contractor. Previous entry on the works or taking possession, working or using thereof by the Trustees shall not relieve the Contractor of his obligations under the contract for full and final completion of the work. *Certificate of final completion*
- 9.3 On completion of the contract in the manner aforesaid, the Contractor may apply for the refund of his Security Deposit by submitting to the Engineer (I) The Treasury Receipts granted for the amount of Security held by the Trustees, and (ii) his “No further claim” Certificate in Form G.C.3 annexed hereto (in original), where upon the Engineer shall issue Certificate in Form G.C.2 and within two months of the Engineer’s recommendation, the Trustees shall refund the balance due against the Security Deposit to the Contractor, after making deduction there from in respect of any sum due to the Trustees from the Contractor. *Refund of Security Deposit*
- 10.0 INTERPRETATION OF CONTRACT DOCUMENTS, DISPUTES AND ARBITRATION
- 10.1 In all disputes, matters, claims, demands or questions arising out of or connected with the interpretation of the Contract including the meaning of Specifications, drawings, designs and instructions or as to the quality of workmanship or as to the materials used in the work or the execution of the work whether during the progress of the works or after the completion and whether before or after the determination, abandonment or breach of the contract the decision of the Engineer shall be final and binding on all parties to the contract and shall forthwith be given effect to by the Contractor. *Engineer’s decision*
- 10.2 If the Contractor be dissatisfied with any such decision of the Engineer, he shall within 15 days after receiving notice of such decision require that the matter shall be referred to Chairman, who shall thereupon consider and give a decision. *Chairman’s award.*
- 10.3 If, however, the Contractor be still dissatisfied with the decision of the Chairman, he shall within 15 days after receiving notice of such decision require that within 60 days from his written notice, the Chairman shall refer the matter to an Arbitrator of the panel of Arbitrators to be maintained by the Trustees for the purpose and any such reference shall be deemed to be a submission to arbitration within the meaning of Indian Arbitration Act, 1940 or any statutory modification thereof. *Arbitration.*
- 10.3.1. If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another person from panel shall be appointed as Sole Arbitrator and he shall proceed from the stage at which his predecessor left it.

- 10.3.2 The Arbitrator shall be deemed to have entered on reference on the date he issues notice to both the parties fixing the date of first hearing.
- 10.3.3 The time limit within which the Arbitrator shall submit his award shall normally be 4 months as provided in Indian Arbitration Act, 1940 or any amendment thereof. The Arbitrator may, if found necessary, enlarge the time for making and publishing the award, with the consent of the parties..
- 10.3.4 The venue of the arbitration shall be either Calcutta or Haldia as may be fixed by the Arbitrator in his sole discretion. Upon every or any such reference the cost of any incidental to the reference and award respectively shall be in the discretion of the Arbitrator who may determine, the amount thereof or by whom and to whom and in what manner the same shall be borne and paid.
- 10.3.5 The Award of the Arbitrator shall be final and binding on all parties subject to the provisions of the Indian Arbitration Act 1940 or any amendment thereof. The Arbitrator shall give a separate award in respect of each item of disputes and respective claim referred to him by each party and give reason for the award.
- 10.3.6 The Arbitrator shall consider the claims of all the parties to the contract – within only the parameters of scope and conditions of the contract in question.
- 10.3.7 Save as otherwise provided in the contract the provisions of the Arbitration Act, 1940 and rules made thereunder, for the time being in force, shall apply to the arbitration proceedings under this Clause.
- 10.4 The Contractor shall not suspend or delay the work and proceed with the work with due diligence in accordance with Engineer's decision. The Engineer also shall not withhold any payment, which, according to him, is due or payable to the Contractor, on the ground that certain disputes have cropped up and are likely to be referred to arbitration.
- 10.5 Provided always as follows:
- [a] Nothing of the provisions in paragraphs 10.3 to 10.3.7 hereinabove would apply in the cases of contracts, where tendered amount appearing in the letter of acceptance of the tender / offer is less than Rs.40,00,000/-.
  - [b] The Contractor shall have to raise disputes or differences of any kind whatsoever in relation to the execution of the work to the Engineer within 30 days from the date of occurrence of the cause of dispute and before the preparation of the final bill, giving detailed justifications, in the context of contract conditions.



- [c] Contractor's dispute if any arising only during the maintenance period, if any, stipulated in the contract, must be submitted to the Engineer, with detailed justification in the context of contract conditions, before the issuance of final completion certificate in Form G.C.-2 *ibid*.  
No dispute or difference on any matters whatsoever, the Contractor can raise pertaining to the Contract after submission of certificate in form G.C.3 by him.
- [d] Contractor's claim / dispute raised beyond the time limits prescribed in sub-clauses 10.5[b] and 10.5 [c] hereinabove, shall not be entertained by the Engineer and / or by any Arbitrator subsequently.
- [e] The Chairman / Trustees shall have the right to alter the panel of Arbitrators, *vide* Clause 10.3 hereinabove, on their sole discretion, by adding the names of new Arbitrators and / or by deleting the names of existing Arbitrators, without making any reference to the Contractor.

**(TO BE SUBMITTED WITH COVER- I OFFER)**  
**THE BOARD OF TRUSTEES FOR THE PORT OF KOLKATA**  
**FORM OF TENDER (UNPRICED)**

To

The General Manager (Engg.),

Haldia Dock Complex.

I/We \_\_\_\_\_

having examined the site of work, inspected the Drawings and read the specifications, General & Special Conditions of Contract and Conditions of the Tender, hereby tender and undertake to execute and complete all the works required to be performed in accordance with the Specification, Bill of Quantities, General & Special Conditions of Contract and Drawings prepared by or on behalf of the Trustees and at the rates & prices set out in the annexed Bill of Quantities within \_\_\_\_\_ months / weeks from the date of order to commence the work and in the event of our tender being accepted in full or in part. I / We also undertake to enter into a Contract Agreement in the form hereto annexed with such alterations or additions thereto which may be necessary to give effect to the acceptance of the Tender and incorporating such Specification, Bill of Quantities, Drawing and Special & General Conditions of Contract and I / We hereby agree that until such Contract Agreement is executed the said Specification, Bill of Quantities, Conditions of Contract and the Tender, together with the acceptance thereof in writing by or on behalf of the Trustees shall be the Contract.

THE TOTAL AMOUNT OF TENDER Rs. **NOT TO BE QUOTED IN COVER I OFFER**

(Repeat in words) **NOT TO BE QUOTED IN COVER I OFFER**

I / We require \_\_\_\_\_ days / months preliminary time to arrange and procure the materials required by the work from the date of acceptance of tender before I We could commence the work.

I / We have deposited with the Trustees' Manager (Finance), HDC, vide Receipt No. \_\_\_\_\_ of \_\_\_\_\_ as Earnest Money.

I / We agree that the period for which the tender shall remain open for acceptance shall not be less than six months.

\_\_\_\_\_  
Dated : (Signature of Bidder with Seal)

**WITNESS :**

Name : (In Block  
Letters)

Address :

Occupation :

**Syama Prasad Mookerjee Port, Kolkata**  
**Haldia Dock Complex**

FORM G.C.1  
**Initial completion Certificate**

Contractor \_\_\_\_\_

Address -----  
-----

**Date of completion:**

Dear sir(s),

This is to certify that the following work viz :-

Name of work: .....  
.....

Work Order No.....  
Allocation.....  
Contract No. ....

which was carried out by you is in the opinion of the undersigned complete in every respect on the \_\_\_\_\_ day of \_\_\_\_\_ 2000 in accordance with terms of the Contract and you are required to maintain the work as per Clause 6.2 of the General Conditions of Contract and under provisions of the Contract for a period of \_\_\_\_\_ weeks / months / years

from the \_\_\_\_\_ day of \_\_\_\_\_ 20.. to \_\_\_\_\_ day of \_\_\_\_\_ 20.. .

Yours faithfully,

Signature.....  
(ENGINEER/ENGINEER'S REPRESENTATIVE)  
Name.....  
Designation.....  
OFFICE SEAL

**Syama Prasad Mookerjee Port, Kolkata**  
**Haldia Dock Complex**

**FORM G.C.2.**

**Certificate of Final Completion.**

**The Financial Adviser & Chief Accounts Officer**  
**The General Manager (Finance), Haldia Dock Complex.**

**This is to certify that the following work viz:-**

**Name of work: .....**

**Estimate No. E.E.O.....dt.....**  
**C.E.O.....dt.....**

**Work Order No.....**

**Contract No. ....**

**Resolution & Meeting No. ....**

**Allocation: .....**

**which was carried out by Shri/Messrs..... is now complete in every respect in accordance with the terms of the Contract and that all obligations under the Contract have been fulfilled by the Contractor.**

**Signature.....**  
**(ENGINEER/ENGINEER'S REPRESENTATIVE)**  
**NAME.....**  
**DESIGNATION.....**  
**OFFICE SEAL**

---

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**Syama Prasad Mookerjee Port, Kolkata**  
**Haldia Dock Complex**

**FORM G.C.3**

**(‘NO CLAIM ‘CERTIFICATE FROM CONTRACTOR)**

The General Manager(Engg)  
Haldia Dock Complex  
Kolkata Port Trust  
Haldia.  
(Atten:.....)

Dear Sir,

I / We do hereby declare that I / we have received full and final payment from the Syama Prasad Mookerjee Port,Kolkata for the execution of the following work viz:-

Name of work: \_\_\_\_\_  
\_\_\_\_\_

Work Order No:- \_\_\_\_\_

Contract No. \_\_\_\_\_

Agreement No.....Dt.....

and I / we have no further claim against the Syama Prasad Mookerjee Port,Kolkata in respect of the above-mentioned job.

Yours faithfully,

(Signature of the Contractor)

Dated \_\_\_\_\_

Name of Contractor.....

Address:.....

**(OFFICIAL SEAL OF THE CONTRACTOR)**

## SECTION – IX

### SPECIAL CONDITIONS OF CONTRACT (SCC)

The following **Special Conditions of Contract (SCC)** shall supplement the **General Conditions of Contract (GCC)**. Whenever there is a conflict, the provisions herein shall prevail over those in the **GCC**.

#### **1.0 PREFACE:**

These provisions though given in a separate section are part of the tender documents which must be read as a whole, the various sections being complementary to one another and are to be taken as mutually explanatory. These provisions shall be read in conjunction with the other parts of the tender documents viz. General Conditions of Contract, Notice Inviting E-Tenderers, instructions to Bidder, Particular Specifications, Drawings, Bill of Quantities and other documents forming part of the Contract. In case of any discrepancy or ambiguity in the documents, the order of precedence of the documents as stated below will apply. In particular, these provisions will over ride those in the General Conditions provided there is discrepancy between them.

#### **1.1 CORRELATION AND ORDER OF PRECEDENCE OF TENDER DOCUMENTS:**

If the stipulations in the various tender documents be found to be at variance in any respect, one will override others (but only to the extent these are at variance) in the order of precedence as given in the list below, i.e. any particular item in the list will take precedence over all those placed lower down in the list.

- Order letter.
- Bill of Quantities.
- Drawings.
- Particular Specifications of work.
- Special Conditions of Contract.
- General Conditions of Contract.

In case of any dispute, question or difference either during the execution of the work or any other time as to any matter or thing connected with or arising out of this Contract, the decision of the Sr. Dy. Manager (P&E), Haldia Dock Complex, thereon shall be final and binding upon all parties.

#### **1.2 LOCATION:**

Haldia Dock System is located at the confluence of River Haldi and River Hooghly at Latitude 22<sup>02</sup>' North and Longitude 88<sup>06</sup>' East, at about 130 Kms upstream from Sand heads and 104 Kms downstream of Kolkata. The port is located on national Waterway No-1; at about 45 Kms upstream from pilot age Station. The berths of Haldia Dock Complex are located inside an Impounded Dock Basin. Berths 2, 3, 4, 4A, 4B and 5 are on the Eastern side of the Basin while Berths 8, 9,10,11,12 and 13 are on its Western side. The Northern side of the basin houses Berths 6 and 7 through a Finger Jetty.

#### **1.3 ACCESS TO THE SITE:**

##### **a. By Road:**

All-weather hard top road approachable from N.H. 41 and State Highway exist right up to the area of work.

##### **b. By Rail:**

S. E. Railway Branch Line connects Haldia with the Panskura Railway Station.

#### **1.4 INSPECTION OF SITE:**

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

The Bidder shall inspect the site of work and thoroughly familiarise himself with the nature of work, site conditions, and access to the site and location before submission of the tender. He should contact the Sr. Dy. Manager (P&E), Haldia Dock Complex at his office at Chiranjibpur, Haldia for collecting information about the work and site before submission of the tender. No excuse will be entertained afterwards on the above ground. In case any part of the site cannot be handed over to the successful Bidder in time, No compensation for loss of labour or any other cause nor any claim will be entertained by the Trustees. Suitable extension of time shall, however, be granted to the successful Bidder on that ground if applied for.

#### **1.5 PARTICULARS OF EXISTING WORKS:**

Such information as maybe given in the specification as to the existing features and works other than those now under construction as part of the present Haldia Dock Complex given without warranty of accuracy and neither the Trustees nor the Engineer will be liable for any discrepancies therein.

#### **1.6 SAFETY MEASURES:**

The contractor shall adhere to safe construction practice, guard against hazardous and unsafe working conditions and follow all safety precautions for prevention of injury or accidents and safeguarding life and property. The contractor shall comply with relevant provisions of Dock Workers (Safety, Health and Welfare) Act – 1986 and Dock Workers (Safety, Health and Welfare) Regulation – 1990 and Safety Officer of the Trustees or Safety Inspectors shall be afforded all facilities for inspection of the works, tools, plant, machineries, equipment etc. wherever so required. The contractor shall further comply with any instruction issued by the Engineer, Trustees' Safety Officer, Safety Inspector in regards to safety which may relate to temporary, enabling or permanent works, working of tools, plants, machineries, equipment, means of access or any other aspect.

The contractor shall provide all necessary first aid measures, rescue and lifesaving equipment to be available in proper condition.

The contractor shall provide PPE's (Personal Protective Equipment) such as, helmet, safety shoe etc. to all workers and shall also provide job specific PPE's e.g. safety belts for working at heights; protective face and eye shield, goggles, hand gloves for welding / gas cutting works; protective foot wear and gloves for hot works; facemasks, gloves and overalls for painting works, mixing and handling materials etc, as directed by the Engineer.

All safety rules shall be strictly followed while working on live electrical systems or installations as stipulated in the relevant safety codes.

Use of hoisting machines and tackles including their attachments, construction tools, machineries and equipment shall comply to the relevant safety codes.

Before allowing workers in sewers, manholes, any duct or covered channel etc, the manhole covers shall have to be kept open and ventilated at least one hour in advance and necessary safety torches / lamps should be inserted first before allowing entry to the worker. Suitable hand gloves and other safety gear will be provided to the worker during handling / removing of slushes / sludge etc. without any extra cost. The contractor shall adopt all the above safety measures at his own cost.

The successful bidder shall also ensure that –

- (i) No damage is caused to plants and vegetations unless the same is required for execution of the project proper.
- (ii) The work shall not pollute any source of water / land / air surrounding the work site so as to affect adversely the quality or appearance thereof or cause injury or death to animal and plant life.
- (iii) His office & labour hutment etc. shall be maintained in a clean and hygienic condition through out the period of their use and different effluents of the labour hutment shall have to be disposed off suitably.

#### **1.7 HOLIDAY OR SUNDAY WORK:**

Subject to provisions in local Acts and any statutes of the State, the Contractor shall arrange for working on Holidays and Sundays whenever so desired by the Engineer to expedite progress and complete the works in time.

The Contractor shall not be entitled to any additional payment for taking up works on Holidays and Sundays. The Contractor should be prepared to resort to round-the-clock working by following shift timings for labour.

#### **1.8 KEEPING THE SITE AND WORKING AREA CLEAR:**

The Contractor shall at all times keep the site and working areas free from all surplus materials, rubbish and offensive matter all of which shall be disposed off in a manner to be approved by the Engineer's Representative. As the works will be carried out mainly inside of operational buildings of HDC, the Contractor has to make necessary arrangement to clear the rubbishes etc. from the buildings, at the end of day's work at his own cost & risk.

#### **1.9 LABOUR, TOOLS & PLANTS:**

The Contractor shall supply all necessary labour, tools and plants required for satisfactory execution of the work.

#### **1.10 ESCALATION / VARIATION ON PRICES:**

No Escalation / Variation on the prices on any account will be considered for adjustment / payment.

#### **1.11 CONTRACT LABOUR LAWS:**

The Contractor must comply with the provisions of Contract labour (Regulation & Abolition) Act 1970 and Contract Labour (Regulation & Abolition) Central Rules 1971 and the rules framed there under with all modifications/amendments being enforced from time to time.

The Contractor shall indicate maximum number of workmen to be engaged on any day for execution of the work in the appropriate place in the ABSTRACT FORM OF TENDER & he shall have to obtain a regular /permanent license as per sec12(1) of the Contract Labour Act.

The contractor shall inform the Principal Employer the date, time & venue of disbursement to be made by him to his workers.

The successful bidder shall also be required to put up a notice at the site of work mentioning the date, time & venue of disbursement to be made by him to his workers and he or his authorized representative shall have to be present during period of disbursement.



#### 1.12 **COMPLIANCE WITH E.P.F & M. P. ACT:**

The successful contractor will have to comply with provision of EPF & MP Act –1952 (along with amendments, if any), issued from time to time.

If asked for by the Employer, the contractor will be required to submit photocopy of all payment challans and produce the original for verification to the representative of the principal employer, i.e. Sr. Dy. Manager (P&E).

#### 1.13 **INDEMNIFICATION:**

The successful bidder shall be deemed to indemnify and keep indemnified the Trustees from and against all actions, claims, demands and liabilities whatsoever under and in respect of the breach of any of the provisions of any law, rules or regulations having the force of law, including but not limited to –

- a) The Minimum Wages Act, 1948.
- b) The Dock Workers (Regulation of Employment) Act, 1948
- c) The Building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996
- d) The Dock Workers' Safety, Health & Welfare Act , 1986
- e) The Payment of Wages Act, 1936.
- f) The Workmen's Compensation Act, 1923.
- g) The Employees Provident Fund Act, 1952.
- h) The Contract Labour (Regulation and Abolition) Act, 1970; Rules 1971.
- i) The Payment of Bonus Act, 1965.
- j) The Payment of Gratuity Act, 1972.
- k) The Equal Remuneration Act, 1976.
- l) The Employees State Insurance Act, 1948 & Employees State Insurance (Amendment) Act , 1989
- m) Child Labour (Prohibition and Regulation) Act, 1986.
- n) The Maternity Benefits Act 1961
- o) Interstate Migrant Workmen (Regulation of Employment & Conditions of Service) Act, 1979.
- p) Motor Vehicle Act, latest revision.

#### 1.14 **DOCK PERMIT:**

Dock permits, which may be necessary for any purpose related to the work, shall be issued against payment at the prevailing rate of HDC.

#### 1.15 **TAXES:**

The quoted rates should include all other Taxes excluding GST. GST as applicable shall be paid extra against proper invoice submitted by the successful contractor.

The contractor will be required to submit GST compliant invoice with all required details and also to be required to file timely and proper return so as to enable SMP Kolkata to get due input credit against GST paid of.

In case of any failure on the above account, GST amount even if paid by SMP Kolkata shall be recoverable from the contractor, along with applicable interest if any.

#### 1.16 PROVISIONS FOR SITE STAFF OF ENGINEER:

After the issue of Engineer's notice to commence, the contractor shall as soon as possible make available of the following facilities for the staff of the Engineer at the Site of Work, all in accordance with the approval of the Engineer or his representative and the Contract Price shall be deemed to be inclusive of the provision for all these facilities.

- (a) Office Facilities :- Throughout the period of Contract, office accommodation at site with **two** /one room(s) alongwith electricity and water supply and adequate ventilation for the sole use of Engineer's representative and his staff. The room shall be provided and maintained with suitable furniture, peon facility as directed by the Engineer. An independent toilet facility shall have to be provided solely for the use of the client.
- (b) Equipment Facilities: - Provide and maintain all necessary equipment in working condition for use of Engineer's staff such survey, testing of materials and any other instruments, equipment and apparatus as they may require for carrying out the contractual obligations.
- (c) Transport facilities: - Shall make available, maintain and operate one good 4 wheeler vehicle (Jeep/Maruti/Ambassador etc.) having a minimum sitting capacity for 5 persons including driver, fuel, etc. for the use of the Engineer or his representative for survey, testing, inspection, measurement etc. related to the work on working days from 9:00 AM to 9:00 PM during pendency of contract( till completion of SITC work). The vehicle shall not be more than 3[Three] years old. Any failure in supply / sudden withdrawal / stoppage will attract deduction from bills @ HDC's similar operating transport contract. In case of exigency and work during night hours, the car shall be made available for the entire night. The supply of vehicle shall start on 15th day from the date of work order and shall finish on the date of completion of SITC work including extension of date of completion, if any.

*Clause No. 2.0  
Performance  
Guarantee /  
Security Deposit*

**Clause No. 2.1**

i) **Performance Guarantee / Security Deposit for the materials, installations & workmanship, with respect to the instant work, as a whole:**

Within **28 (twenty-eight) days** of issuance of “Letter of Acceptance (LOA)”, the Contractor shall have to provide an irrevocable and unconditional Bank Guarantee, from a Nationalized Bank/Scheduled Bank in India, in the amount, **10 %** of the contract value excluding GST .

This Performance Bank Guarantee should be kept valid and enforceable till a date, covering **at least 3 (three) months** beyond the date of expiry of the Defect Liability Period of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole] (as specified in **SCC Clause No. 7.1**). In case the actual duration of the aforesaid Defect Liability Period is required to be extended, the validity of this Bank Guarantee shall have to be extended till a date, covering at least 3 (three) months beyond the date of expiry of such extended duration of the Defect Liability Period.

Failure of the Contractor to submit the aforesaid Performance Bank Guarantee and in the manner stated above, shall constitute sufficient grounds for termination of the contract.

Note:

A) Receiver’s details to be mentioned as ICICI Bank, IFSC ICIC0003507 Branch- Haldia Township Branch, in BG text at which SFMS IFIN 760 messages to be sent by issuing Bank, to establish the authenticity of given BG.

ii) **Performance Guarantee / Security Deposit for LED Luminaires, Intelligent smart feeder pillar boxes and Maintenance contract:**

At least **28 (twenty-eight) days** before the scheduled expiry of the aforesaid Defect Liability Period of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole], or any extension thereof, the Contractor shall have to provide an irrevocable and unconditional Bank Guarantee, from a Nationalized Bank/Scheduled Bank in India, in the amount, **10 % of Luminaires value (supply and installation) Intelligent smart feeder pillar boxes and maintenance contract excluding GST.**

This Performance Bank Guarantee should be kept valid and enforceable till a date, covering at least **3 (three) months** beyond the date of expiry of the additional Defect Liability Period (as specified in **SCC Clause No. 7.1**). In case the actual duration of the additional Defect Liability Period is required to be extended, the validity of this Bank Guarantee shall have to be extended till a date, covering at least 3 (three) months beyond the date of expiry of such extended duration of the additional Defect Liability Period, if any.

Failure of the Contractor to submit the aforesaid Performance Bank Guarantee and in the manner stated above, shall constitute sufficient grounds for forfeiting the Performance Bank Guarantee mentioned in **SCC Clause No. 2.1 i)**.

**Clause No. 2.2**

The procedure of release / refund of Performance Guarantee / Security Deposit would be

as follows:

i) **Performance Guarantee / Security Deposit for the materials, installations & workmanship, with respect to the instant work , as a whole:**

On submission of Performance Guarantee/Security Deposit [as stated in SCC Clause No. 2.1] and on successful completion of the ‘Defect liability period’ (considering extension, if any) of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole] (as specified in SCC Clause No. 7.1), the Contractor may apply for release / refund of his Performance Guarantee/Security Deposit [as stated in SCC Clause No.2.1] by submitting an application to the Engineer, in this regard, whereupon the Engineer shall issue necessary recommendation for release of the said Performance Guarantee/Security Deposit [as stated in SCC Clause No. 2.1] or refund the balance due against the Performance Guarantee/Security Deposit [as stated in SCC Clause No. 2.1] to the Contractor, after making deduction there from in respect of any sum due to the Trustees from the Contractor.

ii) **Performance Guarantee / Security Deposit for LED Luminaires, Intelligent smart feeder pillar boxes and maintenance contract:**

On successful completion of the additional Defect Liability Period (considering extension, if any), to the satisfaction of the Engineer, the Contractor may apply for release / refund of his Performance Guarantee / Security Deposit [as stated in SCC Clause No. 2.1 ii)] by submitting to the Engineer “No Claim Certificate”, as per the form furnished in Section-VII, whereupon the Engineer shall issue “Certificate of Final Completion” [as per the form furnished in Section-VII]. The Engineer shall also issue necessary recommendation for release of the said Performance Guarantee/Security Deposit [as stated in SCC Clause No. 2.1 ii)] or refund the balance due against the Performance Guarantee/Security Deposit [as stated in SCC Clause No. 2.1 ii)] to the Contractor, after making deduction therefrom in respect of any sum due to the Trustees from the Contractor.

**Clause No. 3.0  
Use of ground and  
land / covered space  
for Contractor’s  
establishment**

**Clause No. 3.1**

The Contractor shall be allowed to use a suitable land (open space), which in the opinion of SMP, Kolkata may be absolutely necessary for the proper and efficient execution of works. **Rent of such open space shall have to be paid by the Contractor as per “Schedule of Rent of SMP, Kolkata” prevailing at that time will be charged during pendency of the contract and extension thereof, if any.**

**Clause No. 3.2**

On completion of work or termination of the contract, the Contractor shall have to clear away all their tools, plants, rubbish and other materials, **within a fortnight** and hand over vacant and peaceful possession of the same to SMP, Kolkata, in a tidy and clean condition. **The Rent of such open space will be as per SMP, Kolkata’s “Schedule of Rent”** will be applicable for this additional period (if any) for clearing the space. If the Contractor fails to clear the space and handover the same to the Employer in a clean and tidy condition, within the period mentioned above, SMP, Kolkata’s “Schedule of Rent” will be applicable for the period beyond that.

**Clause No. 3.3**

The Contractor shall be allowed to erect any temporary structures on this land for **office and / or store and / or workshop**, etc. and make all suitable arrangement for water supply, Electricity supply and sanitary arrangements for the same, at their own cost.

**Clause No.3.4**

In case the Contractor is interested in taking **covered space, office room**, etc. of SMP Kolkata for the purpose of making a site office and store in the Dock area, the same may also be allotted subject to availability. The rents for such covered spaces or office room of SMP Kolkata, to be allotted to the Contractor, shall have to be paid by the Contractor, as per the 'Schedule of Rent of SMP Kolkata, prevailing at that time. In addition to the rent, **water consumption charges and Electricity consumption charges** (if Electricity / water is supplied from SMP Kolkata sources) and other applicable charges, as per the notifications of **Tariff Authority of Major Ports (TAMP)**, have to be paid by the Contractor. The Contractor will be responsible for installation, maintenance and calibration of Water Meter and / or Energy Meter also.

*Clause No. 4.0*

**Supply of water and Electricity**

*Clause No. 4.1*

Billing against supply of water will be done on the basis of actual consumption recorded through water meter at the rate **INR 38.65 (including overhead charges @ 19.25%) per KL of Fresh Water** [As directed by TAMP (Tariff Authority for Major Ports)], with escalation @ 5% per annum.

The **water consumption charges** [based on the prevalent rates of SMP Kolkata, as may be amended from time to time] shall have to be paid by the Contractor immediately, on receipt of the bill from the office of the Finance Division, Haldia Dock Complex. All payment on this account should be updated, otherwise the pending bill amount, along with late payment surcharge, will be recovered from the Contractor's bill(s).

Water supply at the **Contractor's site office, store, workshop, assembly/erection yard, actual work (including erection, commissioning & cleaning work) at the site, including the work** required to be carried out at site during the "Defect Liability Period" etc. will be given **on chargeable basis**. For this, the Contractor shall have to make **all arrangements, including installation of Water Meter and laying of pipelines from the source(s) identified by SMP Kolkata, at their cost**. The Contractor will be responsible for maintenance and calibration of such water meter also. Billing against water supply will be done in line with SCC.

SMP Kolkata do not guarantee uninterrupted supply of water and the Contractor shall not be compensated for any delay or irregularity in supplying water. The Contractor shall have to arrange for the supply of water at his own cost during such periods.

*Clause No. 4.2*

**Supply of Electricity:**

**Electricity charges** will be determined on the basis of **Chargeable Unit (kWh)** [actual **Unit (kWh) consumed** (recorded through Energy Meter) **plus 3%** on actual Unit consumed] and applicable rate of **West Bengal State Electricity Distribution Company Limited (WBSEDCL)**. Billing will be done on the basis of **Electricity charges** and overhead charges @ 19.25% [on the aforesaid **Electricity charges**] as per the notifications of **Tariff Authority of Major Ports (TAMP)**.

The **Electricity consumption charges** [based on the prevalent rates of **WBSEDCL**, as may be amended from time to time] shall have to be paid by the Contractor immediately, on receipt of the bill from the office of Finance Division, Haldia Dock Complex. All payment on this account should be updated, otherwise the pending bill amount, along with late payment surcharge, will be recovered from the Contractor's bill(s).

Supply of Electricity at the **Contractor's site office, store, workshop, assembly / erection yard, actual work (including erection and commissioning) at the site, including the work** required to be carried out at site during the "Defect Liability Period" etc. will be on **chargeable basis**. The Contractor shall have to make all arrangements, including **installation of Energy Meter and laying of Cables from the source(s) identified by SMP**

**Kolkata, at their cost.** The Contractor will be responsible for maintenance and calibration of such Energy Meter also. Billing against **electricity charges** will be done in line with SCC.

SMP Kolkata do not guarantee uninterrupted supply of Electricity and the Contractor shall not be compensated for any delay or irregularity in supplying Electricity. The Contractor shall have to arrange for Electricity at his own cost during such periods.

*Clause No.5.0*

*Clause No.5.1*

**Inspection and testing**

The Employer shall appoint a **Third Party Inspection Agency**, at the cost of the Employer, for stage-wise technical inspection and certification of **materials & workmanship**, including **painting, erection, commissioning**, etc. [in connection with the contract job, as a whole]. The relevant Certificates shall be produced by the **Third Party Inspection Agency** to the Engineer or his authorised Representative.

The stage-wise technical inspection will be carried out by the **Third Party Inspection Agency** based on the approved **Quality Assurance Plan (QAP) & Field Quality Assurance Plan (FQAP)** [considering the Technical Specification of the bidding documents].

The Contractor shall have to submit a **Quality Assurance Plan (QAP)** and a **Field Quality Assurance Plan (FQAP)**, based on the Technical Specification and other terms & conditions stipulated in the bidding documents. The **QAP & FQAP** shall be approved by the “**Engineer**”, after the same are duly recommended by the **Third Party Inspection Agency**. The **Technical Inspection & Certification** will be carried out by the **Third Party Inspection Agency**, in accordance with approved **QAP & FQAP**.

In all cases where tests are required, within the purview of QAP & FQAP, whether at the premises of the Contractor or any Sub-contractor or elsewhere, the Contractor, except where otherwise specified, shall provide free of charges such labour, materials, electricity, fuel, water, stores, apparatus and instruments, as may reasonably be demanded, to carry out sufficiently such tests and shall, at all times, facilitate the Engineer or his Representative and the Third Party Inspection Agency, to accomplish such testing.

The cost of all tests and/or analyses, within the purview of QAP & FQAP, effected at the Contractor’s or Sub-contractor’s works and on the site, shall be borne by the Contractor. The Contractor will be called upon to pay all expenses incurred by the Employer in respect of any work found to be defective or of inferior quality, adulterated or otherwise unacceptable.

If, during inspection by the **Third Party Inspection Agency** [appointed by SMP, **Kolkata**], any material or test [within the purview of QAP & FQAP] fails to fulfil the contract conditions for **more than 2 (two) times**, **any additional amount charged by the Third Party Inspection Agency towards inspection of the same from the 3<sup>rd</sup> time onwards shall have to be borne by the Contractor**. If the Contractor fails to make such payment to the **Third Party Inspection Agency**, the same shall be deducted from the bill(s) of the Contractor and paid to the **Third Party Inspection Agency**.

**Clause No. 5.2** [Taking over of the Contract job]

The Engineer or his authorised Representative, on giving 7 (seven) days' notice, in writing, to the Contractor, setting out any ground of objections, in respect of the work, shall be at liberty to reject all or any material and/or workmanship in the subject of any of the said grounds of objection, which are not in accordance with the contract.

**Clause No. 5.3**

Quality of materials, to be provided by the Contractor under this contract, should be as per the satisfaction of the Engineer. Whenever asked, the Contractor shall have to provide free sample for testing.

**Clause No. 5.4**

If found necessary, SMP Kolkata reserves the rights to get the materials inspected from a **Government or Government recognized Laboratory/Test House**

**Clause No. 5.5**

In case of sub-letting to other Contractors or manufacturers or suppliers by the Contractor, the Engineer will reserve the right as follows:

- i. that inspection and / or testing will be carried at the Sub-contractor's works; or
- ii. that inspection will be carried out at site; or
- iii. that inspection will be waived, subject to the Contractor furnishing a certificate of compliance with specification by a competent authority recognised by national/international institutes.

**Clause No. 5.6**

The Employer may appoint a **Third Party Inspection Agency**, as detailed at SCC, at the cost of the Employer, for stage-wise technical inspection and certification of **materials & workmanship, including painting, erection, commissioning**, etc. [in connection with the contract job, in part or as a whole ]. In that case The relevant Certificates shall be produced by the **Third Party Inspection Agency** to the Engineer or his authorised Representative

**Clause No. 5.7**

The stage-wise technical inspection will be carried out by the representative of the Engineer [or **Third Party Inspection Agency**] based on the approved **Quality Assurance Plan (QAP) & Field Quality Assurance Plan (FQAP)** [considering the Technical Specification of the bidding documents].

**Clause No. 5.8**

The Contractor shall have to submit a **Quality Assurance Plan (QAP)** and a **Field Quality Assurance Plan (FQAP)**, based on the Technical Specification and other terms & conditions stipulated in the bidding documents. The **QAP & FQAP** shall be approved by the "**Engineer**".

**Clause No. 5.9**

In all cases where tests are required, within the purview of QAP & FQAP, whether at the premises of the Contractor or any Sub-contractor or elsewhere, the Contractor, except where otherwise specified, shall provide free of charges such labour, materials, electricity, fuel, water, stores, apparatus and instruments, as may reasonably be



demanded, to carry out sufficiently such tests and shall, at all times, facilitate the Engineer or his Representative [ and / or the Third Party Inspection Agency] , to accomplish such testing.

**Clause No. 5.10**

The cost of all tests and / or analyses, within the purview of QAP & FQAP, effected at the Contractor's or Sub-contractor's works and on the site, shall be borne by the Contractor. The Contractor will be called upon to pay all expenses incurred by the Employer in respect of any work found to be defective or of inferior quality, adulterated or otherwise unacceptable

**Clause No. 5.11**

If, during inspection by the **Third Party Inspection Agency [if appointed by SMP Kolkata]**, any material or test [within the purview of QAP & FQAP] fails to fulfil the contract conditions for **more than 2 (two) times, any additional amount charged by the Third Party Inspection Agency towards inspection of the same from the 3<sup>rd</sup> time onwards shall have to be borne by the Contractor.** If the Contractor fails to make such payment to the **Third Party Inspection Agency**, the same shall be deducted from the bill(s) of the Contractor and paid to the **Third Party Inspection Agency**

**Clause No. 5.12**

**Tests on completion:**

On **completion of installation**, the contractor shall give a **7 (seven) days'** notice to the Engineer [with a copy to the **Third Party Inspection Agency, appointed by SMP, Kolkata**], in writing (informing the date on which they will be ready to make the tests), before carrying out such tests, in accordance with and in the manner prescribed in the specifications.

If any portion of work fails under the tests to fulfil the contract conditions, tests of the faulty portion shall, if required by the **Third Party Inspection Agency (appointed by SMP, Kolkata)** or the Engineer or by the Contractor, be repeated within reasonable time, upon the same terms and conditions.

If such "**Tests on completion**" cannot be carried out successfully by the Contractor within 1 (one) month after the time fixed by the Contractor and if, in opinion of the Engineer, the tests are being unduly delayed, the Engineer may, in writing, call upon the Contractor, with 7 (seven) days' notice, to make such tests, failing which the Engineer may proceed to make such tests himself, at the Contractor's risk and expense. In the above eventuality, the Employer shall, nevertheless, have the right of using the installations at the Contractor's risk until the "**Tests on completion**" are successfully carried out.

**Clause No. 5.13**

Notwithstanding the fact that the materials or installations have passed the inspection, the Contractor is not relieved from his obligations to conform to the quality, workmanship, guaranteeing the performance, etc., as per the contract.

**Clause No. 6.0**

**Clause No. 6.1**

**Completion Period**

All the jobs (including submission of As Built Drawings), as per contract, are to be completed within 12 (**Twelve**) months from the date of issue of Letter of Acceptance (LOA) [i.e. award of contract].

**Clause No. 6.2**

**Taking over of the Contract job**

The **Contract job** will be taken over by HDC, SMP Kolkata after completion of the works in accordance with the contract, having passed all the tests under “Tests on completion **SCC clause No.4.12**”.

**Clause No. 7.0**

**Clause No. 7.1**

**Defect Liability Period (DLP)**

**i) “Defect Liability Period” of the Contract job:**

“Defect Liability Period” of the Contract job [for the materials, installations & workmanship, with respect to the instant job, as a whole] shall mean the Guarantee Period, which starts from the date of taking over the Contract job [as per **SCC Clause No. 5.2** (Taking over of the Contract job by KoPT)] and will continue till expiry of **24 (twenty-four) months**, calculated from the date of taking over the Contract job.

**ii) Additional “Defect Liability Period” of the LED Luminaires and Intelligent smart feeder pillar boxes :**

Additional “Defect Liability Period” of the LED Luminaires and Intelligent smart feeder pillar boxes shall mean the additional Guarantee Period, which would start from the date of expiry of the ‘Defect liability period’ (considering extension, if any) of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole] (as specified above) and will continue till expiry of 36 (thirty-six) months thereafter.

**Clause No. 7.2**

During “**Defect Liability Period**” of the **Contract job** [as specified in **SCC Clause No. 7.1**], the Contractor shall nominate 1 (one) competent, experienced and responsible technical person, to co-ordinate and execute all works to be attended by the Contractor, as per contractual obligations, without any extra cost to HDC, SMP Kolkata.

**Clause No. 8.0**      **Clause No. 8.1**

**Defects after taking over**

After the taking over of the Contract job, if the same cannot be used (for the purpose for which it is intended), during any period, by the reason of a defect or damage, the **Defect Liability Period** shall be extended accordingly. If only a **portion** of the **Contract job** is affected, the **Defect Liability Period** shall be extended [in case the defects is not rectified or defective materials is not replaced within 24 (twenty four) hours of its occurrence] only for that portion, provided the other portions of the **Contract job** remains in order, fulfilling contract conditions. In neither case shall the **Defect Liability Period** be extended beyond **36 (thirty-six) months** [from the date of taking over the **Contract job**] for the materials, installations & workmanship, with respect to the instant job, as a whole.

After expiry of the 'Defect liability period' (considering extension, if any) of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole] (as specified above), if the LED Luminaires and/or Intelligent smart feeder pillar boxes cannot be put into use, during any period, by the reason of a defect or damage, the additional **Defect Liability Period** (as specified above) shall be extended [in case the defects is not rectified or defective LED Luminaires and/or Intelligent smart feeder pillar boxes are not replaced within 24 (twenty four) hours of its occurrence] only for those LED Luminaires and/or Intelligent smart feeder pillar boxes, provided the other LED Luminaires and/or Intelligent smart feeder pillar boxes remain in order. In this case the **Defect Liability Period** shall not be extended beyond **48 (forty-eight) months** from the date of expiry of the 'Defect liability period' (considering extension, if any) of the Contract job [for the materials, installations & workmanship, with respect to the instant work, as a whole.

**Clause No 9.0**      **Clause No. 9.1**

**Terms of payment**

Payment to the Successful Bidder will be made stage-wise as indicated below :-

a) **Against Supply & Delivery :**

- i) Payment for 70% amount of **each item** will be made against supply of respective item at site and submission of bills along with Custodian Certificate and other relevant documents like Inspection Reports, Challans, etc.
- ii) Payment for 20% amount of **each item** will be made against installation of **respective items** and submission of bills along with Installation Certificate.
- iii) Payment for 10 % amount will be made against Testing, successful commissioning, taking over the commissioned job by SMP Kolkata and submission of bills, along with Job Completion Certificate.

b) **Against Installation and Commissioning :**

- i) Payment for 90% amount of **each item** will be made against installation of the respective item and submission of bills along with Installation Certificate.
- ii) Payment for 10 % amount will be made against Testing, successful commissioning, taking over the commissioned job by SMP Kolkata and submission of bills, along with Job Completion Certificate.

**Clause No. 9.2**

c) **Against Non-Comprehensive Maintenance during Warranty Period :**

No payment would be made by HDC, SMP, Kolkata to the contractor during Non-comprehensive maintenance period i.e. Warranty Period. However, copies of

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

maintenance job card, duly signed by HDC officials as per schedule, are to be submitted.

d) **Against Comprehensive Maintenance during post Warranty Period :**

Payment will be made on pro-rata Quaterly basis on successful maintenance of the system as per approved schedule. Copies of maintenance job card, duly signed by HDC officials as per schedule, are to be submitted along with half yearly bills.

**Clause No. 9.2**

**PENALTIES:**

a) Non availability of minimum strength of **man power** shall attract a penalty as per the table furnished below:-

Sl. No.	Category	Penalty
1.	Electrician- Category-1	2times the minimum wages rate of Skilled category per shift per head.
2.	Electrician- Category-2	2times the minimum wages rate of Semi-Skilled category per shift per head.
3.	Supervisor [ Highly-skilled category]	2times the minimum wages rate of Highly-Skilled category per shift per head

b) Non-availability of **High Mast**[ non-function of raise/lowering mechanism, trailing cable, winch assembly, wire rope ] beyond minimum availability even though, the Power supply is available at bottom/ MCB DB's of the Mast, beyond two days from the date of lodging complaint by SMPK official shall attract a penalty of ₹500.00 per day per high Mast. Imposition of penalty at the discretion of Engineer In charge.

c) Non-availability of **LED Luminaire** beyond minimum availability, even though, the Power supply is available at bottom/ MCB DB's of the Mast, beyond two days from the date of lodging complaint by SMPK official shall attract a penalty of ₹50.00 per day per luminaire per high Mast. Imposition of penalty at the discretion of Engineer In charge.

d) **Balance system**:-Normally, the breakdown call is to be attended /commissioned within 48 hours from the date and time of breakdown call.

In case, it is not possible to commission the system due to valid reasons (major fault, replacement of spare parts which are not readily available from OEM etc.) which is to be acceptable to Engineer, in this regard HDC would provide 7days free time from breakdown call. Non-acceptance of reasons by Engineer or delay in commissioning of equipment beyond 7 days will attract penalty.

The contractor will have to pay to the trustee @ 0.01% of the Annual Maintenance Contract value / day if delay in commissioning of system from 8<sup>th</sup> day onwards.

**Clause No. 10**  
**Force Majeure**

**Clause No. 10.1**

In the event of either party rendered unable by Force Majeure to perform any obligation required to be performed by them under the Contract, relevant obligation of the party affected by such Force Majeure shall upon notification to the other party be suspended for the period which Force Majeure events lasts. The cost and loss sustained by the either party shall be borne by the respective parties.

The term “Force Majeure” as employed shall mean the events as below :

riot (unless solely restricted to or perpetuated by employees of the Contractor or his subcontractors / suppliers or occurring outside India) so far as it is uninsurable;

war, hostilities (whether war be declared or not), invasion, directed to or by India or act of foreign enemies, directed to India;

rebellion, revolutions, insurrection, or military or usurped power, or civil war in India;

Fire, flood, cyclone, hurricane and acts of God.

Time of performance shall be extended by the period of delay, which is directly caused by the Force Majeure. Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid shall notify the other party in writing immediately but not later than forty eight hours of the alleged beginning and ending thereof, giving full particulars and satisfactory evidence in support of his claim.

Time of performance of the relative obligation suspended by the Force Majeure shall stand extended by the period for which such event lasts and affects the relative obligation directly. Such extension of time shall be without prejudice to the provision that time is essence of the Contract and any other terms and conditions related to time of completion as may provided elsewhere in the Contract.

If the work is affected by Force Majeure lasting for more than 60 days at a stretch, the parties to the Contract shall settle the issue mutually.

**Clause No. 11**  
**Settlement of**  
**Dispute**

**Clause No. 11.1**

If a dispute, of any kind whatsoever arises between the Employer and the Contractor in connection with or arising out of the contract or the execution of the works, the same shall be dealt as per relevant provisions of the General Conditions of Contract and THE ARBITRATION AND CONCILITATION (AMENDMENT) ACT, 2015 and any statutory amendment thereof.

**Clause No. 12**  
**Liquidated**  
**Damage**

**Clause No. 12.1**

If the Contractor fails to complete the work within the stipulated dates or such extension thereof as communicated by the Engineer in writing, the Contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, ½% (half percent) of the total value of work (contract piece excluding GST) as mentioned in the letter of acceptance of the tender/offer, for every week or part thereof the work remains unfinished. Provided always that the amount of such compensation shall not exceed 10% of the said value of work. The amount of Liquidated damages shall be determined by the Engineer, which shall be final and binding.

**Clause No. 13**  
**Deputation of**  
**Technical**  
**personnel by the**  
**Contractor**

**Clause No. 13.1**

The contractor shall have to depute authorized Technical personnel (as detailed below) to supervise the work during construction phase of the project period at his own cost.

The Number of Technical personnel, Qualifications and Experience will be as follows:

<b>Technical Personnel</b>	<b>Number (Minimum)</b>	<b>Experience in Building Construction Work</b>
A. Diploma holder in Civil Engineering	01	Minimum 5 years of experience in building works.
A. Diploma holder in Electrical Engineering	01	Minimum 10 years of experience. Must hold SCC for respective part.

Necessary documents pertaining to the qualification and experience of the Technical personnel should be submitted after LOA.

**Clause No. 14**  
**Royalty**

**Clause No. 14.1**

Royalty as applicable from time to time for various materials like sand, stone aggregates etc. obtained by the contractor, his agents/suppliers or sub-contractors from government or private quarry/land for the purpose of this contract work shall be paid by the contractor at prevailing rates. He shall indemnify the Trustees against any claim from the Government / other authorities for short or non-recovery of royalty charges and shall pay such short or non-recovered amount(s) on demand to the appropriate authorities at any time.

**Clause No. 15**  
**Insurance**

The contractor during the contract period shall provide for insurance of 110% of the contract value, including maintenance value (excluding GST). Insurance shall remain valid till 3months, after completion of contract.

Insurance policy should taken in the name of SMPK, Haldia Dock complex and should cover Fire, flood, cyclone, hurricane etc.

**SECTION – X**  
**BIDDING FORMS**

**BIDDING FORM – I**

**E-Tender No. SDM(P&E)/T/ 18 /2023-2024**

**MINIMUM ELIGIBILITY CRITERIA**

[To be filled up and uploaded, duly signed & stamped]

**(I) ANNUAL TURNOVER STATEMENT**

The annual turnover of .....( name of the bidding firm), for the years 2020-21, 2021-22 and 2022-23 , based on the **Balance Sheets and Profit & Loss Accounts**, are given below:

<b>Financial years</b>	<b>Turnover (as per Auditor's Report / Balance Sheet) [in Rs ]</b>
<b>2020-21</b>	
<b>2021-22</b>	
<b>2022-23</b>	
<i>Total</i>	
<i>Average Annual Turnover</i>	

SIGNATURE OF CHARTERED ACCOUNTANT     ::

NAME OF CHARTERED ACCOUNTANT            ::

(COMPANY SEAL)

UDIN    ::

**NOTE:** Copy of Balance Sheets and Profit & Loss Accounts enclosed with sealed & signed.

**(II) TECHNICAL EXPERIENCE**

<b>Sl. No.</b>	<b>Contract No. / Order No. and date</b>	<b>Name of the Employer and Place of work</b>	<b>Contract value [in Rs. ]</b>	<b>Date of completion of work</b>	<b>Page number(s) of reference / supporting document (s), uploaded.</b>

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



**OTHER DOCUMENTS**

[To be filled up and uploaded, duly signed &amp; stamped]

<b>Sl. No.</b>	<b>Requirement</b>	<b>Submitted/Not submitted [Put <math>\checkmark</math> if submitted &amp; X if not submitted]</b>	<b>Validity/ For the month of</b>
a)	<b>Illumination Design</b> [Considering design criteria as mentioned in technical specification [section-VI, clause 2 A)].	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	
b)			
i)	<b>GST Registration Certificate.</b>	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	Not applicable.
ii)	Document in support of non-applicability.	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	Not applicable.
c)			
i)	<b>Profession Tax Clearance Certificate (PTCC)</b>  <b><u>OR</u></b> <b>Profession Tax Payment Challan (PTPC)</b>	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	
		<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	
ii)	Document in support of non-applicability.	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	Not applicable.
d)			
i)	Certificate for allotment of <b>EPF Code No.</b>	<input type="checkbox"/> If submitted, <b>Code No.:</b> <b>Page Number(s):</b>	Not applicable.
ii)	Latest <b>EPF Payment Challan.</b>	<input type="checkbox"/> If submitted, <b>Page Number(s):</b>	

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

<b>Sl. No.</b>	<b>Requirement</b>	<b>Submitted/Not submitted [Put <math>\checkmark</math> if submitted &amp; <math>\times</math> if not submitted]</b>		<b>Validity/ For the month of</b>
iii)	Document in support of non-applicability.	<input type="checkbox"/>	If submitted, <b>Page Number(s):</b>	Not applicable.
e)				
i)	<b>Registration Certificate of ESI Authority.</b>	<input type="checkbox"/>	If submitted, <b>Code No.:</b> <b>Page Number(s):</b>	Not applicable.
ii)	Affidavit, Declaration and Indemnity Certificate.	<input type="checkbox"/>	If submitted, <b>Page Number(s):</b>	Not applicable.
f)	<b>PAN Card</b>	<input type="checkbox"/>	If submitted, <b>PAN No.:</b> <b>Page Number(s):</b>	Not applicable.
g)	<b>Udyam Registration Certificate</b>	<input type="checkbox"/>	If submitted, <b>Page Number(s):</b>	
h)	<b>Power of Attorney</b>	<input type="checkbox"/>	If submitted, <b>Page Number(s):</b>	Not applicable.

**E-Tender No. SDM(P&E)/T/18 /2023-2024****GENERAL INFORMATION OF THE BIDDER**

[To be filled up and uploaded, duly signed &amp; stamped]

1.	Bidder's Legal Name (IN CAPITAL LETTERS)		
2.	a )	Country of registration.	
	b )	Year of registration.	
	c )	Legal address in country of registration.	
	d )	URL of the bidder.	
3.	Information regarding bidder's authorised representative(s) / contact person(s)		
	a )	Name(s)	
	b )	Address(es)	
	c )	Telephone number(s)/Mob. No.	
	d )	Facsimile number(s)	
	e )	Electronic mail address	
4.	a )	Address of the branch office, if any	
	b )	Name of the contact person at branch office	
	c )	Telephone number(s)	

	d )	Facsimile number(s)	
	e )	Electronic mail address	
5.	Whether the bidder is a <b>Proprietorship Firm</b> or <b>Partnership Firm</b> or <b>Limited Company</b> .		
6.	<b>Details of the Banker(s) :</b>		
	a )	Name of the Banker(s) in full.	
	b )	Address(es) of the Banker(s)	
	c )	Telephone number(s)	
	d )	Facsimile number(s)	
	e )	Electronic mail address	
	f )	Name(s) of the contact person(s)	
7.	<b>Bank details for ECS payment :</b>		
	a )	Bank Account number.	
	b )	Name of the bank.	
	c )	Name of the branch.	
	d )	Address of the branch.	
	e )	RTGS code of the branch.	
	f )	MICR code of the branch.	
8.	<b>Income Tax and Goods &amp; Services Tax (GST) details (if applicable):</b>		
	a)	<b>Permanent Account Number (PAN)</b>	
	b)	<b>GST Registration Number (GSTIN)</b>	
9.	<b>Employees' Provident Fund (EPF) Code No.</b>		
10.	<b>Employees' State Insurance (ESI) Code No.</b>		
11.	Mainlines of business		

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**E-Tender No. SDM(P&E)/T/18/2023-2024**

**FORMAT FOR DECLARATION**

*[ To be printed on the bidder's Letter Head and uploaded after signing]*

**To,  
General Manager (Engg.)  
Haldia Dock Complex,  
Syama Prasad Mookerjee Port, Kolkata**

**Name of Work: "Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK".**

I ....., the authorized signatory of the ..... (Name of the Company /Firm) do hereby declare / confirm that :

\* I / We have not been **debarred, banned** or **delisted** by any Government or Quasi-Government Agencies or Public Sector Undertakings in India.

I / we have not made any **addition / modification / alteration** in the **Bidding Documents** (including Bidding Forms & Contract Forms) hosted in the websites.

The prices have been quoted in the Price Bid, electronically, through the website <https://kopt.enivida.in> only and no direct or indirect mention of the prices has been made by me / us anywhere else in my / our bid.

No extraneous conditions (like "Not Applicable", conditional rebate, etc.), regarding the Price Bid, have been mentioned anywhere in our bid.

**Signature of authorised person of the bidder  
(with office seal)**

- In case the **firm** has been debarred or banned or delisted by any Government or Quasi-Government Agencies or Public Sector Undertaking in India, then the same should be declared properly, after modifying the sentence, suitably.

**FORM OF TENDER**

*[ To be printed on the bidder's Letter Head and uploaded after signing]*

To,  
General Manager (Engg.)  
Haldia Dock Complex ;  
Syama Prasad Mookerjee Port, Kolkata

Name of Work: *“Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK”*.

E-Tender No.: **SDM(P&E)/T/18 /2023-2024**

I/We ..... (Name of the bidder) .....of .....(Address of the bidder) ..... Having **examined the site of work, inspected the drawings** and read the **bidding documents** [including **all addenda / corrigenda**, issued i.e. .... {insert Addendum / Corrigendum / Extension No(s)}], hereby bid and undertake to execute & complete all the work related to **“Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK”**, required to be performed in accordance with the **Technical Specification, General Conditions of Contract (GCC), Special Conditions of Contract (SCC)**, etc., at the **rates & prices** quoted in the **Price Bid** [*submitted electronically, through the website <https://kopt.enivida.in>*], within .....month from the date of order to commence the work , in the event of our bid being accepted.

I/we also undertake to enter into a **Contract Agreement** in the form hereto annexed [**Section XI**] with such alterations or additions thereto, which may be necessary to give effect to the acceptance of the bid and incorporating such **Technical Specification, General Conditions of Contract (GCC), Special Conditions of Contract (SCC)**, etc. and I/we hereby agree that until such **contract agreement** is executed, the said **Technical Specification, General Conditions of Contract (GCC), Special Conditions of Contract (SCC)**, etc. and the bid, together with the acceptance thereof in writing, by or on behalf of the Employer, shall be the contract.

I / We require .....days preliminary time to arrange and procure the

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

materials, tools & tackles, etc. required by the work, from the date of acceptance of bid, before I/we could commence the work.

I / We have deposited **Rs 26,13,677.00 (Indian Rupees: Twenty six lakhs thirteen thousand six hundred and seventy seven) only**, to Haldia Dock Complex, through e-payment bearing No..... in favour of Syama Prasad Mookerjee Port,Kolkata as Earnest Money,.

Or,

I / We have deposited **Rs 10,00,000.00 (Indian Rupees: Ten lakhs) only**, to Haldia Dock Complex, through DD/Banker Cheque bearing No..... in favour of Syama Prasad Mookerjee Port,Kolkata and the balance amount of Rs **16,13,677.00** in the form of Bank Guarantee as per performa attached as **Annexure-B** as Earnest Money.

Or,

I / We being MSE organisation are exempted for paying EMD to Haldia Dock Complex, hence are *enclosing herewith Udyam Registration Certificate with the Udyam Registration Number as proof of their being registered Udyam Registration Portal.*

I/We agree that the period for which the bid shall remain open for acceptance, shall not be less than ..... **Days**, from the last date of submission of bid.

( Signature of authorised person of the bidder )

WITNESS:

Signature:

Name : \_\_\_\_\_

Name:

(In Block Letters)

Designation : \_\_\_\_\_

Address:

Date : \_\_\_\_\_

Occupation:

(Office Seal)

**BANK GUARANTEE FORMAT  
(Earnest Money Deposit)**

To  
The Board of Trustees,  
For the Port of Kolkata.  
BANK GUARANTEE NO..... DATE.....  
Name of Issuing Bank.....  
Name of Branch.....  
Address.....

In consideration of the Board of Trustees of the Port of Kolkata, a Body Corporate, duly constituted under the Major Port Trust Act,1963 (Act 38 of 1963), having agreed to exempt M/s....., a Proprietary / Partnership / Limited / Registered Company, having its Registered office at .....(hereinafter referred to as “The Contractor”) from cash payment of Earnest Money Deposit in connection with Tender No..... for.....(write the name of the work as per tender) for the due fulfilment by the contractor of all the terms and conditions contained in the said tender, on submission of a Bank Guarantee for Rs.....(Rupees.....), we..... Bank ..... Branch, Kolkata...../Haldia, do, on the advice of the bidder, hereby undertake to indemnify and keep indemnified the Trustees to the extent of the said sum of Rs.....(Rupees.....).

1. We, ..... Bank.....Branch, Kolkata ..... / Haldia, further agree that if a written demand is made by the Trustees through any of its officials for honouring the Bank Guarantee constituted by these presents, We, ..... Bank..... Branch, Kolkata ...../Haldia, shall have no right to decline to cash the same for any reason whatsoever and shall cash the same and pay the sum so demanded to the Trustees within a week from the date of such demand by an A/c Payee Banker's Cheque drawn in favour of “Kolkata Port Trust” without any demur. Even if there be any dispute between the contractor and the Trustees, this would be no ground for us.....(Name of Bank), .....Branch, Kolkata ...../Haldia, to decline to honour the Bank Guarantee in the manner aforesaid. The very fact that We..... Bank.....Branch, Kolkata ...../Haldia, decline or fail or neglect to honour the Bank Guarantee in the manner aforesaid shall constitute sufficient reason for the Trustees to enforce the Bank Guarantee unconditionally without any reference, whatsoever, to the bidder.
2. We..... Bank.....Branch, Kolkata / Haldia, further agree that a mere demand by the Trustees at any time and in the manner aforesaid is sufficient for us..... Bank..... Branch, Kolkata / Haldia, to pay the amount covered by this Bank Guarantee in full and in the manner aforesaid and



within the time aforesaid without reference to the bidder and no protest by the bidder, made either directly or indirectly or through Court, can be valid ground for us.....Bank .....Branch, Kolkata / Haldia, to decline or fail or neglect to make payment to the Trustees in the manner and within the time aforesaid.

3. We .....Bank.....Branch, further agree that the Bank Guarantee herein contained shall remain in full force and effect, during the period that is taken for finalization of the tender and that it shall continue to be enforceable till all the terms and conditions of the said tender have been fully honoured /fulfilled by the bidder and accordingly, the Trustees have discharged the Bank Guarantee, subject however, that this guarantee shall remain valid upto and inclusive of .....days of.....20--- and subject also to the provision that the Trustees shall have no right to demand payment against this guarantee after the expiry of 1 (one) calendar month from the expiry of the aforesaid validity period up to.....or any extension thereof made by us.....Bank.....Branch, Kolkata / Haldia, in further extending the said validity period of this Bank Guarantee on Non-Judicial Stamp paper of appropriate value, as required/determined by the Trustees, only on a written request by the Trustees to the bidder for such extension of validity of this Bank Guarantee.
  
4. We.....Bank. .... Branch, Kolkata / Haldia, further agree that, without our consent and without affecting in any manner our obligations hereunder, the Trustees shall have the fullest liberty to vary from time to time any of the terms and conditions of the said tender or to extend the time for full performance of the said tender including fulfilling all obligations under the said tender or to extend the time for full performance of the said tender including fulfilling all obligations under the said tender by the bidder or to postpone for any time or from time to time any of the powers exercisable by the Trustees against the bidder and to forebear or enforce any of terms and conditions relating to the said tender and we..... Bank.....Branch, Kolkata / Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the bidder or for any fore-bearance, act or commission on the part of the Trustees or any indulgence by the Trustees to the bidder or by any such matter or thing of whatsoever nature, which under the law relating to sureties would, but for this provision have effect of so relieving us .....Bank .....Branch, Kolkata / Haldia.
  
5. We, .....Bank. .... Branch, Kolkata / Haldia, lastly undertake not to revoke this Bank Guarantee during its currency except with the previous consent of the Trustees in writing.

SIGNATURE.....  
NAME.....  
DESIGNATION.....  
(Only constituted attorney for and on behalf of)  
BANK.....  
BRANCH.....Kolkata/Haldia.

**E-Tender No. SDM(P&E)/T/18 /2023-2024****PRICE SCHEDULE**

[To be filled up and uploaded, duly signed &amp; stamped]

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
<b>PART A- Illumination</b>						
1	<b>High Mast:</b>					
	Design, Supply, Installation, Testing and Commissioning of 30 Mtrs. high Hot dip galvanised High mast type lighting tower complete with all relevant accessories as per Technical Specification.					
	(i) Supply	No.	35			
(ii)	Installation, Testing and Commissioning	No.	35			
2	<b>Load Point Panel:</b>					
	Supply, Installation, Testing and Commissioning of Outdoor type Load Point Panel, IP55 Enclosure, fabricated from SS316 grade sheet of 2mm thick, suitable GI C type channel[ISMC] and flat etc. and as per Technical Specification.					
	(i) Supply	No.	14			
(ii)	Installation, Testing and Commissioning	No.	14			
(iii)	Relocation, Installation, Testing and Commissioning of existing load point panel/FPB including replacement of 400A SDFU-2Nos., Time switches, ML 8/10 power contactors etc.	No.	6			
3	<b>Feeder Pillar with Intelligent smart lighting control system:</b>					
	Design, Supply, Installation, Testing and Commissioning of Feeder Pillar with Intelligent smart lighting control system for 30 Mtr. High Masts and Lattice type lighting tower. Feeder Pillar shall be Outdoor type, dust, vermin weather proof, IP55 enclosure fabricated from SS316 grade sheet of 2mm thick, suitable angled and flat, mounted on GI C type channel[ISMC] as per Technical Specification.					
	(i) Supply	No.	60			
(ii)	Installation, Testing, and Commissioning	No.	60			
4	<b>Luminaries &amp; Lamps:</b>					
	Design, Supply, Installation, testing and commissioning of LED luminaries with complete accessories as per Technical Specification.					
(i)	Supply of 500 W(min.) LED Luminaire [as per design]. [1 set means:-Total Qty. of luminaire for 85Nos.,	Set	1			

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
	30Mtrs. High Mast and 15Nos., 27.5Mtrs. Lattice towers as per design by luminaire manufacturer submitted by bidder during bidding]					
(ii)	Installation, Testing and Commissioning 500 W(min.) LED Luminaire on newly supplied 35Nos. high mast [as per design.].	Set	1			
(iii)	Installation, Testing and Commissioning 500 W (min.) LED Luminaire on existing 50Nos., 30M high mast Towers [as per design.].	Set	1			
(iv)	Installation, Testing and Commissioning 500 W(min.) LED Luminaire on existing 15Nos., 27.50M high Lattice Towers[as per design.].	Set	1			
5	<b>LT Cable:</b>					
	Supply of LT Cable, 1.1KV grade, XLPE U.G. Alu. Cable as per Technical Specification.					
(i)	Supply of 3.5 C X 150 Sq.mm.	KM	7			
(ii)	Supply of 3.5 C X 240 Sq.mm.	KM	8			
(iii)	Supply of 3.5 C X 400 Sq.mm.	KM	0.5			
(iv)	Supply of 3.5 C X 25 Sq.mm.	KM	10			
6	<b>Laying, testing and commissioning of LT Cables:</b>					
	Laying, testing and commissioning of LT Cables including end termination of cable at Outdoor feeder pillar,load point panel,Junction box and Sub-station. Job includes supply and installation of HDPE pipe, GI pipe, Al. saddles & end termination materials.					
(i)	By existing RCC trench/Hume pipe/GI Pipe/GI structure/HDPE pipe .	KM	12.5			
(ii)	By excavating trench.	KM	5.5			
(iii)	By removal of paver blocks, excavating trench and laying cable.Job includes restoring/re-fixing paver blocks as directed by Engineer.	KM	1			
(iv)	By 160mm dia. HDPE pipe(PN6) through earth excavation.	KM	2			
(v)	By 160mm dia HDPE Pipe(PN6) through HDD boring method	KM	3			
(vi)	By 150NB Heavy duty GI Pipe through Boring	KM	0.5			
(vii)	By 150NB Heavy duty GI Pipe through earth excavation	KM	1			
7	<b>LT Cable Jointing :</b>					
	Supply & Installation of LT 1.1 kV Heat shrinkable type Straight through jointing kits for XLPE, Aluminum armoured UG cable as per Technical specification.					
(i)	3.5C x 400 sq.mm	sets	10			

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
(ii)	3.5C x 240/185 sq.mm	sets	15			
(iii)	3.5C x 150/120 sq.mm	sets	20			
(iv)	3.5C x 35/25 sq.mm	sets	35			
8	<b>Aviation Light:</b>					
	Supply, Installation, Testing and Commissioning of Twin Dome LED type Aviation Obstruction Luminary.					
(i)	Supply	Sets	100			
(ii)	Installation, Testing and Commissioning	Sets	100			
9	<b>Earthing System:</b>					
	Supply, Installation, testing and commissioning of GI Plate earth station as per Technical Specification.	No	275			
10	<b>GI strip laying:</b>					
	Supply, laying and termination of size of 50 X 6 MM GI strip as per Technical Specification.					
(i)	Supply	Mtr.	2650			
(ii)	Laying, termination, commissioning and interconnection between earthing station.	Mtr.	2650			
11	<b>Protection Guard:</b>					
	Design, supply, Fabrication and erection of protection guard from used rail having the height of 1.5 Mtr. above the Ground Level. 11/12/13Mtrs.used rail would have to collected from HDC's store /Yard.Job includes transportation, cutting, erection including necessary foundation work as per Technical Specification.Rail would be provided by HDC on free of cost basis.	LS	85			
12	<b>Existing High Mast Tower &amp; Lattice Tower :</b>					
	Dismantling, Handling & Transportation of erected 30Mtrs. High Mast Towers and re-erecting old and used 30Mtrs. HM towers on existing foundation/ newly constructed foundation. Job includes replacement of wire rope, MCB, Trailing cable, JB's, Luminaire, aviation fittings, and winch assembly in existing HM Towers.					
(i)	Dismantling of 1x400Watt HPSV Luminaire with CG Boxes , 2x400Watt HPSV Luminaire,aviation luminaire, existing wiring, existing Winch assembly, existing trailing cable, existing wire ropes, MCB's from 50Nos. existing 30M high mast Towers and dismantling HPSV Luminaire with CG Boxes & aviation luminaire from 10Nos. existing Lattice type lighting towers. The job includes transporting of all dismantled materials from HM Towers / lattice towers from site to HDC store as directed by Engineer. (Apporx.1100Luminaire, 800CG Boxes & 60 set of aviation luminaire)	LS	1			

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
(ii)	Supply and installation of Double gear, Double drum, Double pinion winch assembly on 30M existing high mast.	Nos.	50			
(iii)	Supply and installation of 2Nos. wire ropes on existing 30M high mast each(62Mtrs. each).	Sets	50			
(iv)	Supply and installation of Hot dip GI sheet doors on existing 30M high mast towers.	Nos.	10			
(v)	Supply & Installation of 40A/63A TPN Class-C MCB at High Mast / existing FPB and interconnection work with 10 Sqmm flexible copper wire.	Sets	200			
(vi)	Supply and installation of 2x5Cx4sqmm. EPR insulated copper trailing cable for high mast raising arrangement (62Mtrs. each) with Weather proof industrial sockets.(2Nos. each high mast).	Sets	50			
(vii)	Supply & Installation of GI Weather proof IP66 JB's on the top of lattice towers.(2Nos. each Lattice tower).	Sets	15			
(viii)	Supply & Installation of GI Weather proof IP66 JB's on the top of existing High Mast tower.(2Nos. each HM tower).	Sets	50			
(ix)	Supply and installation of Hot dip galvanised lantern carriage on existing HM towers	Nos.	50			
(x)	Repairing of climbing monkey ladder and top platform of existing lattice tower with GI angle, GI channel, GI flats and GI plates. Job includes supply and installation of suitable size GI angles, GI channels,GI flats and GI plates as per available structural drgs. of HDC.	T	3			
(xi)	Transportation of existing 30Mtrs. HM from existing location to new location as directed by Engineer	Nos.	10			
(xii)	Erection, Testing and commissioning of 50Nos. existing 30Mtrs. HM Towers.	Nos.	50			

**Sub-Total Part A =**

**PART B- Electrics Package**

1	<b>500kVA,Outdoor Package sub-station:-</b>					
	Design, Supply, Installation, testing and commissioning of Package Outdoor Sub-Station as per Technical Specification.					
(i)	Supply	No.	1			
(ii)	Installation, testing and commissioning	No.	1			
2	<b>11kV HT VCB Panel:-</b>					
	Design,Supply, Installation, testing and commissioning of HT VCB Panel, 11kV, 630A, 21kA for 3Sec. Copper bus bar HT Panel as per Technical Specification.[VCB Panels- 1No.-I/C & 3Nos. Out goings ]					

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
(i)	Supply	Sets	1			
(ii)	RCC foundation, Installation, testing and commissioning	Sets	1			
3	<b>HT Cable:-</b>					
	Supply of H.T. cable as per Technical Specification.					
(i)	Supply of 11kV(E), 3 C X185 Sq.mm. XLPE insulated Alu.conductor armoured U.G.cable	Mtrs.	3,500			
4	<b>HT Cable Laying:-</b>					
	Laying, testing,commissioning & termination of HT Cables at Sub-station of HDC. Job includes supply and installation of Hume and GI pipe.					
(i)	By existing RCC trench/Hume pipe/GI Pipe/GI structure .	Mtrs.	150			
(ii)	By excavating trench.	Mtrs.	200			
(iii)	By removal of paver blocks, excavating trench and laying cable.Job includes restoring/refixing paver blocks as directed by Engineer.	Mtrs.	400			
(iv)	By 160mm dia. HDPE pipe(PN6) through earth excavation.	Mtrs.	250			
(v)	By 160mm dia HDPE Pipe(PN6) through HDD boring method	Mtrs.	2,000			
(vi)	By 150NB Heavy duty GI Pipe through Boring	Mtrs.	250			
(vii)	By 150NB Heavy duty GI Pipe through earth excavation	Mtrs.	250			
5	<b>Earthing System:</b>					
	Supply, Installation, termination, interconnection between earthing station and High Mast, Load panel, Feeder pillar as per Technical Specification.	No	12			
6	<b>11KV End termination and st. through Kit:-</b>					
	Supply and installation of indoor type heat shrinkable end termination kit and st. through kit for HT,11KV 3C X 185Sqmm XLPE UG Aluminium Cables.					
(i)	Supply of end termination kit	No.	10			
(ii)	Supply of st. through kit	No.	3			
(iii)	Installation, Testing & commissioning	No.	11			
7	<b>GI strip laying:</b>					
	Supply, laying and termination of size of 50 X 6 mm GI strip as per Technical Specification.					
(i)	Supply	Mtr.	250			
(ii)	Laying, termination,commissioning and interconnection between earthing station.	Mtr.	250			
<b>Sub-Total(Part B)-</b>						

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
<b>PART C- Civil Foundation</b>						
1	<b>30 Mtr. High Mast:</b>					
	Design and construction of RCC Foundation for 30Mtrs. High Mast , including excavation of earth(after strengthening of soil condition by removing slushy materials and replacing by silver sand and compacting there after to make the base suitable for High Mast foundation), Double Layer brick soiling, PCC, Supply of foundation accessories consisting of required numbers of foundation bolts ,Nuts, Washers, Anchor Plates,Template etc. in complete and HDPE/PVC pipe of suitable size for cable entry; supply of foundation accessories like cement, reinforcement steel bars, bricks, sand,stone chips, shuttering materials labour required for RCC foundation,refilling of earth/zone-3 sand up to the existing ground level after curing.The design foundation of High Mast shall be based on IS:875 &IS:456.					
	(i) 30 Mtr. High New High Mast Towers.(As per Drg.)	Nos.	30			
	(ii) 30 Mtr. High New High Mast Towers( By Pile foundation).	Nos.	5			
(iii)	30 Mtr. High for existing High Mast Towers(As per Drg.)	Nos.	10			
2	<b>Load Point Panel :</b>					
	Construction of RCC foundation of Load point Panel including earth excavation, supply of foundation accessories like cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials labour required for RCC foundation,refilling of earth up to the existing ground level after curing.	Nos.	20			
3	<b>Feedar Pillar with Intelligent smart lighting control system:</b>					
	Construction of RCC foundation of Load point Panel including earth excavation, supply of foundation accessories like cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials labour required for RCC foundation,refilling of earth up to the existing ground level after curing.	Nos.	60			
4	<b>Outdoor Package Sub-station:</b>					
	Construction of RCC foundation of Outdoor Package sub-station including earth excavation, supply of foundation accessories like cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials labour required for RCC foundation,refilling of earth up to the existing ground level after curing.	Nos.	1			
<b>Sub-Total Part C =</b>						

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
<b>PART D- Maintenance Contract</b>						
1	Non-Comprehensive /Comprehensive Maintenance Contract with full responsibility of carrying out repair and supply of required original spare parts to keep the system fully operational condition for a period of 5 years, after handing over/taken over of the system.					
(i)	Non-Comprehensive maintenance during Guarantee period of 1st year & 2nd year).	LS.	1			
(ii)	Comprehensive maintenance with spares (except luminaire) during 3rd year.	LS.	1			
(iii)	Comprehensive maintenance with spares (except luminaire) during 4th year.	LS.	1			
(iv)	Comprehensive maintenance with spares (except luminaire) during 5th year.	LS.	1			
<b>Sub-Total Part D =</b>						
<b>Total [Part A + Part B + Part C +Part D] =</b>						

**Note:**

1)500W(min.) LED Luminaire [as per design.]-1set

[1Set means:- Total Qty .of luminaire for 85Nos., 30Mtrs. High Mast and 15Nos., 27.5Mtrs. Lattice towers as per design by luminaire manufacturer submitted by bidder during bidding].

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.



**E-Tender No. SDM (P&E)/T/18/2023-2024**

**Integrity Pact**

Between

**Syama Prasad Mookerjee Port, Kolkata (SMP, Kolkata)** hereinafter referred to as “**The Principal/ Employer**”.

And

..... hereinafter referred to as “**The Bidder/Contractor**”

**Preamble**

The Principal intends to award, under laid down organizational procedures, contract/s for ..... The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, an Independent External Monitor (IEM) appointed by the principal, will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the PRINCIPAL/EMPLOYER to get the contractual work executed and/or to obtain/dispose the desired said stores/ equipment at a competitive price in conformity with the defined specifications/ scope of work by avoiding the high cost and the distortionary impact of corruption on such work /procurement/ disposal and Enabling BIDDERS/ CONTRACTORS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the PRINCIPAL/EMPLOYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

**Section 1 – Commitments of the Principal/ Employer.**

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will, in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the

Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

- c. The Principal will exclude from the process all known prejudiced persons.
- (2). If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC)/Prevention of Corruption (PC) Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

## **Section-2 –Commitments of the Bidder(s) / Contractor(s)**

- (1) The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- a. The Bidder(s) /Contractor(s) will not directly or through any other person or firm, offer, promise or give to any of the Principal’s employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
  - b. The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contract, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
  - c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principles, if any. Further details as mentioned in the “Guidelines on Indian Agents of Foreign Suppliers” shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines, all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the “Guidelines on Indian Agents of Foreign Suppliers” is annexed and marked as Annex-A.
  - e. The Bidder(s)/Contractor(s) will when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (2). The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

## **Section-3-Disqualification from tender process and exclusion from future contracts**

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

If the Bidder(s)/Contractor(s) before award or during execution has committed a transgression through a violation of Section 2 above, or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as considered appropriate.

#### **Section 4-Compensation for damages**

- (1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
- (2) If the Principal has terminated the contract according to Section 3 or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

#### **Section 5-Previous transgression**

- (1) The Bidder declares that no previous transgressions occurred in the last 3 years from the date of signing the Integrity pact with any other Company in any country conforming to the anti corruption approach or with any other Public Sector Undertaking / Enterprise in India, Major Ports/ Govt. Departments of India that could justify his exclusion from the tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as considered appropriate.

#### **Section 6- Equal treatment of all Bidders/Contractors/Sub-Contractors**

- (1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
- (2) The Principal, will enter into agreements with identical conditions as this one with all Bidders, Contractors and Sub-contractors.
- (3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

#### **Section 7- Other Legal actions against violating Bidder(s)/ Contractor(s)/ Sub Contractor(s)**

The actions stipulated in this Integrity pact are without prejudice to any other legal action that may follow in accordance with provisions of the extant law in force relating to any civil or criminal proceedings. .

#### **Section 8 – Role of Independent External Monitor (IEM):**

- (a) The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.
- (b) The Monitors shall not be subject to instructions by the representatives of the parties and shall perform their functions neutrally and independently.

(c) Both the parties accept that the Monitors have the right to access all the documents relating to the contract.

(d) As soon as the Monitor notices, or has reason to believe, a violation of this pact, he will so inform the authority designated by the Principal and the Chief Vigilance Officer of Kolkata Port Trust.

(e) The BIDDER/ CONTRACTOR(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the PRINCIPAL including that provided by the BIDDER/ CONTRACTOR. The BIDDER/ CONTRACTOR will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation, if any. The same is applicable to sub-contractors. The Monitor shall be under contractual obligation to treat the information and documents of the Bidder/Contractor/ Sub-contractor(s) with confidentiality.

(f) The Principal/ Employer will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor, the option to participate in such meetings.

(g) The Monitor will submit a written report to the designated Authority of Principal/ Employer/ Chief Vigilance Officer of Kolkata Port Trust within 8 to 10 weeks from the date of reference or intimation to him by the Principal/ Employer/ Bidder/ Contractor and should the occasion arise, submit proposals for correcting problematic situation. BIDDER/ CONTRACTOR can approach the Independent External Monitor (s) appointed for the purposes of this Pact.

(h) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or to take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(i) If the Monitor has reported to the Principal substantiated suspicion of an offence under the relevant IPC/PCA, and the Principal/ Employer has not, within reasonable time, taken visible action to proceed against such offence or reported to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

(j) The word 'Monitor' would include both singular and plural.

### **Section 9 – Facilitation of Investigation:**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the PRINCIPAL/EMPLOYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER/CONTRACTORS and the BIDDER/CONTRACTOR shall provide necessary information and documents **in English** and shall extend all possible help for the purpose of such examination.

### **Section 10 – Pact Duration:**

The pact begins with when both parties have legally signed it and will extend upto 2 years or the complete execution of the contract including warranty period whichever is later. In case bidder/contractor is unsuccessful this Integrity Pact shall expire after 6 months from the date of signing of the contract.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairman, SMP Kolkata.

**Section 11 – Other Provisions:**

- (1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal in Kolkata.
- (2) Changes and supplements as well as termination notices need to be made in writing in English.
  
- (2) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
  
- (4) Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

\_\_\_\_\_

\_\_\_\_\_

(For & on behalf of the Principal)

(For & on behalf of Bidder/Contractor).

(Office Seal)

(Office Seal)

Place :

Date :

Witness 1:

(Name & Address) .....

.....

.....

Witness 2:

(Name & Address) .....

.....

.....

**GUIDELINES FOR INDIAN AGENTS OF FOREIGN SUPPLIERS**

- 1.1 There shall be compulsory registration of Indian agents of Foreign suppliers for all Tenders. An agent who is not registered with SMP, Kolkata shall apply for registration in the prescribed Application-Form.
- 1.2 Registered agents will file an authenticated Photostat copy (duly attested by a Notary Public)/Original certificate of the principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/salary/retainer ship being paid by the principal to the agent before the placement of order by SMP Kolkata.
- 1.3 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.

**2.0 DISCLOSURE OF PARTICULARS OF AGENTS/REPRESENTATIVES IN INDIA. IF ANY.**

- 2.1 Tenderers of Foreign nationality shall furnish the following details in their offer:
  - 2.1.1 The name and address of the agents/representatives in India, if any and the extent of authorization and authority given to commit the Principals. In case the agent/representative be a foreign Company, it is to be conformed whether it is real substantial Company and details of the same shall be furnished.
  - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/representatives in India.
  - 2.1.3 Confirmation of the Tenderer that the commission/remuneration if any, payable to his agents/representatives in India, is to be paid by SMP, Kolkata in Indian Rupees only.

**2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:**

- 2.2.1 The name and address of the foreign principals indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents /representatives.
- 2.2.2 The amount of commission/remuneration included in the price(s) quoted by the Tenderer for himself.
- 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/remunerations, if any, reserved for the Tenderer in the quoted price(s), is to be paid by SMP, Kolkata in India in equivalent Indian Rupees.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/remuneration, if any payable to the agents/representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph-2.0 above will render the concerned tender liable for rejection or in the event of a contract materializing, the same liable to termination by SMP Kolkata. Besides this there would be a penalty of banning business dealings with SMP Kolkata or damage or payment of a named sum.

**E-Tender No. SDM(P&E)/T/18./2023-2024**

**Format for Power of Attorney for Lead Member of Consortium & Joint Bidding Agreement**

**(To be executed before Notary Public on a Non-Judicial Stamp Paper of at least Rs 10 )**

**POWER OF ATTORNEY**

Whereas Haldia Dock Complex, Syama Prasad Mookerjee Port, Kolkata (“the Authority”) has invited tenders from interested parties for “.....” (Tender No. ....).

Whereas, ....., ....., ..... And ..... (collectively the “ Consortium”) being members of the Consortium are interested in bidding for the Tender in accordance with the terms and conditions of the Tender Document and other connected documents in respect of the said tender, and

Whereas, it is necessary under the Tender Document for the members of the Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium’s bid for the Tender and its execution.

**NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS**

We, M/s. .... having our registered office at ....., M/s..... having our registered office at ....., M/s. .... Having our registered office at ....., and M/s. .... having our registered office at ....., [the respective names and addresses of the registered office] (hereinafter collectively referred to as the “Principals”) do hereby designate, nominate, constitute, appoint and authorize M/s. .... Having its registered office at ....., being one of the members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as the “Attorney”). We hereby irrevocably authorize the Attorney to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Contract, during the execution of the contract, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the Consortium and submission of its bid(s) for the tender, including but not limited to signing and submission of all applications, bids and other documents and writings, participate in Pre Bid and other conferences/meetings, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of bid(s) of the Consortium and generally to represent the Consortium in all its dealings with the Authority, and/or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium’s bid(s) for the tender and/or upon award thereof till the Agreement is entered into with the Authority.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us / Consortium.

IN WITNESS HEREOF WE HAVE EXECUTED THIS POWER OF ATTORNEY ON  
THIS ..... DAY OF .....20\*\*

For .....

(Name & Title)

For .....

.....

(Name & Title)

For .....

.....

(Name & Title)

Witnesses:

1.

2.

.....

(To be executed by all the members of the Consortium)



**E-Tender No. SDM(P&E)/T/18./2023-2024**

**Joint Bidding Agreement**

(Refer Clause 2.1.4)

([To be submitted on Non-judicial Stamp Paper of worth not less than INR 100.00])

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

AMONGST

1. .... Limited, a company incorporated under the Companies Act, 1956/2013<sup>¥</sup> and having its registered office at ..... (hereinafter referred to as the “First Part” which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2. .... Limited, a company incorporated under the Companies Act, 1956/2013 and having its registered office at ..... (hereinafter referred to as the “Second Part” which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

3. {..... Limited, a company incorporated under the Companies Act, 1956/2013 and having its registered office at ..... (hereinafter referred to as the “Third Part” which expression shall, unless repugnant to the context include its successors and permitted assigns)}

AND

4. {..... Limited, a company incorporated under the Companies Act, 1956/2013 and having its registered office at ..... (hereinafter referred to as the “Fourth Part” which expression shall, unless repugnant to the context include its successors and permitted assigns)}

The above mentioned parties of the FIRST, SECOND, {THIRD and FOURTH} PART are collectively referred to as the “Parties” and each is individually referred to as a “Party”

WHEREAS,

A. Syama Prasad Mookerjee Port, Kolkata, established under the Major Port Trusts Act 1963 and having Principal Office at 15, Strand Road, Kolkata – 700001 (hereinafter referred to as the “SMP, Kolkata” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited bids (the Bids”) by its Bidding Documents No. .... dated ..... (the “Bidding Documents”) for pre-qualification of bidders for **Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK** (the “Project”).

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<sup>¥</sup> A Bidder who is registered abroad may substitute the words, viz “a company registered under the Companies Act, 1956/2013” by the words, viz “a company duly organised and validly existing under the laws of the jurisdiction of its incorporation”. A similar modification may be made in Recital 2, as necessary.

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**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.**

- B. The Parties are interested in jointly bidding for the Project as members of a Consortium and in accordance with the terms and conditions of the Bidding Document and other documents in respect of the Project, and
- C. It is a necessary condition under the Bidding Document that the members of the Consortium shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Bid.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations

In this Agreement, the capitalised terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the Bidding Document .

2. Consortium

2.1 The Parties do hereby irrevocably constitute a consortium (the “Consortium”) for the purposes of jointly participating in the Bidding Process for the Project.

2.2 The Parties hereby undertake to participate in the Bidding Process only through this Consortium and not individually and/ or through any other consortium constituted for this Project, either directly or indirectly or through any of their Associates.

3. Covenants

The Parties hereby undertake that in the event the Consortium is declared the successful Bidder and awarded the Project, it shall enter into a Contract Agreement with the Authority for performing all its obligations as the Contractor in terms of the Contract Agreement for the Project.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

(a) Party of the First Part shall be the Lead member of the Consortium and shall have the power of attorney from all Parties for conducting all business for and on behalf of the Consortium during the Bidding Process and under the Contract Agreement;

(b) Party of the Second Part shall be {the Technical Member of the Consortium;}

{(c) Party of the Third Part shall be the Financial Member of the Consortium; and}

{(d) Party of the Fourth Part shall be the Operation and Maintenance Member/ Other Member of the Consortium. }

5. Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the Bidding Document and the Contract Agreement.

6. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

- (a) Such Party is duly organised, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement with SMP Kolkata;
- (b) The execution, delivery and performance by such Party of this Agreement has been authorised by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Consortium Member is annexed to this Agreement, and will not, to the best of its knowledge:
  - (i) require any consent or approval not already obtained;
  - (ii) violate any Applicable Law presently in effect and having applicability to it;
  - (iii) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof;
  - (iv) violate any clearance, permit, concession, grant, license or other governmental authorisation, approval, judgement, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or
  - (v) create or impose any liens, mortgages, pledges, claims, security interests, charges or encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- (c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and
- (d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.

## 7. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until the Financial Close of the Project is achieved under and in accordance with the Contract Agreement, in case the Project is awarded to the Consortium. However, in case the Consortium is either not pre-qualified for the Project or does not get selected for award of the Project, the Agreement will stand terminated in case the Bidder is not pre-qualified or upon return of the Earnest Money by the SMP, Kolkata to the Bidder, as the case may be.

## 8. Miscellaneous

### 8.1 This Joint Bidding Agreement shall be governed by laws of India.

8.2 The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the SMP, Kolkata.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED

For and on behalf of

LEAD MEMBER by:

(Signature)  
(Name)  
(Designation)  
(Address)

SIGNED, SEALED AND DELIVERED

SECOND PART

(Signature)  
(Name)  
(Designation)  
(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of  
THIRD PART

(Signature)  
(Name)  
(Designation)  
(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of  
FOURTH PART

(Signature)  
(Name)  
(Designation)  
(Address)

In the presence of:

- 1.
- 2.

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Consortium Member.
3. For a Joint Bidding Agreement executed and issued overseas, the document shall be legalised by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed.

**SECTION - XI**

**CHECKLIST**

**E-Tender No. SDM(P&E)/T/18./2023-2024**

*Before scanning and upload the following required documents, all pages are to be signed by a person duly authorised to sign on behalf of the bidder, and are to be embossed with their official seal, owing responsibility for their correctness / authenticity. All pages of the aforesaid documents should be serially marked.*

*The offered prices would be given in the “**Price Bid (Part-II)**” electronically, through the website of e-Nivida only.*

<b>Sl. No.</b>	<b>Particulars</b>	<b>Submitted/ Not submitted [Put <math>\sqrt</math> if submitted and put <b>X</b> if not submitted]</b>	<b>If submitted, page numbers</b>
1.	Proof of <b>Bid Document Fee</b> . Udyam Registration certificate for exemption of <b>Bid Document Fee</b> .	<input type="checkbox"/>	<input type="checkbox"/>
2.	Proof of <b>Earnest Money Deposit (EMD)</b> [Annexure-B of Bidding form V] Udyam Registration certificate for exemption of EMD.	<input type="checkbox"/>	<input type="checkbox"/>
3.	Valid Electrical Contractor's License.	<input type="checkbox"/>	<input type="checkbox"/>
4.	Audited Balance Sheets and Profit & Loss Accounts for the years 2020-21,2021-22 and 2022-23.	<input type="checkbox"/>	<input type="checkbox"/>
5.	Power of Attorney	<input type="checkbox"/>	<input type="checkbox"/>
6.	Illumination Design	<input type="checkbox"/>	<input type="checkbox"/>
7.	<b>Bidding Forms</b>		

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

Sl. No.	Particulars		Submitted/ Not submitted [Put $\sqrt$ if submitted and put X if not submitted]	If submitted, <u>page numbers</u>
i)	<b>Bidding Form – I</b>		<input type="checkbox"/>	<input type="checkbox"/>
ii)	<b>Bidding Form - II</b>		<input type="checkbox"/>	<input type="checkbox"/>
iii)	<b>Bidding Form – III</b>		<input type="checkbox"/>	<input type="checkbox"/>
iv)	<b>Bidding Form - IV</b>		<input type="checkbox"/>	<input type="checkbox"/>
v)	<b>Bidding Form – V</b>		<input type="checkbox"/>	<input type="checkbox"/>
vi)	<b>Bidding Form - VI</b>		<input type="checkbox"/>	<input type="checkbox"/>
vii)	<b>Bidding Form - VII</b>		<input type="checkbox"/>	<input type="checkbox"/>
viii)	<b>Bidding Form - VIII</b>		<input type="checkbox"/>	<input type="checkbox"/>

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**SECTION – XI**  
**CONTRACT FORMS**

**FORM OF AGREEMENT**

(To be submitted on Non- judicial Stamp Paper of worth not less than INR 50.00)

**CONTRACT NO. GM(E)/...../ /AGMT/...../.....**

**TENDER REFERENCE:**

**E-Tender No. SDM(P&E)/T/18./2023-2024**

*“Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK”*

**ORDER REFERENCE:** ..... / /O-... dated .....

**This agreement** made this ..... day of ....., Two thousand .....,  
**BETWEEN**

**The Board, Syama Prasad Mookerjee Port, Kolkata**, a body corporate -- constituted by the Major Port Trust Act, 1963 (hereinafter called the ‘board’, which expression shall unless excluded by or repugnant to the context be deemed to include their successors in office) of the one part

**AND**

..... (hereinafter called the “**Contractor**”, which expression shall unless excluded by or repugnant to the context be deemed to include its heirs, executors, administrators, representatives and assignees or successors in office) of the other part

[Together hereinafter the “Parties”]

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

## WHEREAS

The Trustees are desirous that certain works should be executed by the Contractor, viz. **“Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK”** and have accepted a Bid / offer by the Contractor for execution, completion and maintenance of such works, including remedying any defects therein, during the Defect Liability Period.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement words expressions shall

### **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 **Conditions of Contract** hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this agreement :
  - a) The said bid / offer.
  - b) The Letter of Acceptance of the bid /offer [vide Order No. ....../ ...../O-... dated .....
  - c) The Conditions of Contract and **Technical Specification** [all terms and conditions of E-Tender No. **SDM (P&E)/T/ 18 /2023-2024**].
  - d) Addenda [Please insert Addenda Nos. ....]
  - e) “Price Comparative Statement”, showing the prices quoted (electronically, through the website <https://kopt.enivida.in>) by the Successful Bidder, in the Price Bid.
  - f) All correspondence, by which the contract is added, amended, varied or modified, in any way, by mutual consent.
3. In Consideration of the payments to be made by the Trustees to the Contractor as hereinafter mentioned, the Contractor hereby covenant with the Trustees to execute, complete & maintain the work, including remedy any defects therein (during the Defect Liability Period”), in conformity with the provisions of the Contract, in all respects.

**IN WITNESS** whereof the parties hereto have caused this Agreement to be executed the day and year first before written.

The parties hereunto affixed their respective Common Seals (or have hereunto set their



respective hands and seals).

For and on behalf of

HALDIA DOCK COMPLEX  
SMP Kolkata

**SEAL**

**In presence of**

For and on behalf of

(CONTRACTOR)

**SEAL**

**In presence of**

## INDEMNITY BOND

[To be submitted on Non-judicial Stamp Paper of worth not less than INR 50.00, **duly notarised**]

Reference:

Order No.: ...../...../...../O-... dated ..... For Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK”

**General Manager(Engg),  
Haldia Dock Complex,  
Jawahar Tower Complex,  
P.O.Haldia Township ; Dist. Purba Medinipur ,  
West Bengal, India  
PIN : –721 607**

This deed of **Indemnity Bond** made on ..... by ..... Having their office at ..... (hereinafter called “the **Contractor**”).

**Whereas** the General Manager (Engineering), **Haldia Dock Complex, SMP, Kolkata** , Dist.: Purba Medinipur, West Bengal (hereinafter call “the **Engineer**”) has placed an order, bearing no. .... /...../O-... dated ..... And some materials, spare parts, components, sub-assemblies, etc. are required to be taken **outside** of **Haldia Dock Complex** premises for some specialized servicing, repairing, overhauling, etc. or **fault diagnosis & remedial measures** by the Contractor, as per the terms & conditions mentioned in the said order, and which have been mutually agreed upon by the parties hereto,

AND

**Whereas** in consideration of the said contract, the Contractor has agreed to execute an **Indemnity Bond** for the safe custody on receipt of the said materials, spare parts, components, sub-assemblies, etc., from the **Engineer** until the **completion of servicing / overhauling / repairing / remedial work** and returning back to the Engineer as hereinafter appearing.

**Now** this deed witnessed that in pursuance of the said agreement and in the premises, the Contractor agrees to indemnify Engineer and at all the terms, to hold themselves liable for all the **damages, loss** due to **pilferage / fire** or negligence on the part of the Contractor or their employees, agents and representatives or from whatever cause, with all losses, interest charges and expenses incurred by the said Engineer on account of the material(s) issued to the Contractor,

AND

It is in terms of the said contract and this **Deed of Indemnity**, the material(s) issued free to the Contractor for servicing / overhauling / repairing / **fault diagnosis & remedial work**, thereon shall be deemed to be the **property of the Engineer**.

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

It is hereby agreed that the Contractor shall be liable for all injury, losses and damages that may be caused to the ....., from whatever cause and further that the Contractor shall not part with or delivery possession of the said material(s) to any other party or person, save in compliance with and in performance & provision of contract in respect of which this **Indemnity Bond** is executed, the Contractor having undertaken to delivery the said material (s) in all respect in compliance with the terms of the contract.

This bond and the trust hereby created shall remain valid and binding on the Contractor till such time as the above said order has been fully and finally executed and Contractor has delivered the ..... complete thereon to the Engineer under the terms of the contract.

For and on behalf of (name of the Contractor), under the common seal of the company.

**WITNESS** (Signature of the authorised person on behalf of the Contractor)

( Signature ) Name :  
Name : Designation  
Designation

Signed in my presence and identified by me

**BANK GUARANTEE FOR PERFORMANCE GUARANTEE**

**[To be submitted on Non-judicial Stamp Paper of worth not less than INR 50.00]**

**To**  
**The Board, Syama Prasad Mookerjee Port, Kolkata**  
**[Formerly Kolkata Port Trust].**

BANK GUARANTEE NO..... DATE.....

Name of Issuing Bank.....

Name of Branch.....

Address.....

In consideration of the **Board, Syama Prasad Mookerjee Port, Kolkata**, a body corporate – duly constituted under the Major Port Trusts Act, 1963 (Act 38 of 1963), (hereinafter referred to as “**Board**”) having awarded to Shri / Messrs ....., a Proprietary/ Partnership/Limited / Registered Company, having its Registered Office at ..... (hereinafter referred to as “**The Contractor**”, which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns), a **CONTRACT** by issue of **Board**’ Work Order No. .... / ...../...../O-..... dated ..... For Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2years DLP at different zone of HDC, SMPK” and the same having been unequivocally accepted by the Contractor resulting in a **CONTRACT** bearing No. **GM (E)/1059/ /AGMT/...../.....** and the Contractor having agreed to provide a **BANK GUARANTEE** from a Nationalized / Scheduled Bank of India, in prescribed format for **Rs. .... (Indian Rupees .....)** only, for the faithful and satisfactory performance of the entire contract .

We, ... Branch, Kolkata ...../Haldia, do, on the advice of the Contractor, hereby undertake to indemnify and keep indemnified the **Board** to the extent of the said sum of **Rs ..... (Indian Rupees .....)** only.

We, .....Branch, Kolkata .../Haldia, further agree that if a written demand is made by the Trustees through any of its officials for honouring the Bank Guarantee constituted by these presents, we, ..... Branch, Kolkata ...../Haldia, shall have no right to decline to cash the same for any reason whatsoever and shall cash the same and pay the sum so demanded to the **Board** within a week from the date of such demand by an A/c Payee Banker’s Cheque drawn in favour of “**Syama Prasad Mookerjee Port, Kolkata**”, without any demur. Even if there be any dispute between the Contractor and the **Board**, this would be no ground for us, ..... (Name of Bank), ..... Branch, Kolkata ...../Haldia, to decline to honour the Bank Guarantee in the manner aforesaid. The very fact that

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**Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.**

we, .....Branch, Kolkata..... /Haldia, decline or fail or neglect to honour the Bank Guarantee in the manner aforesaid, shall constitute sufficient reason for the **Board** to enforce the Bank Guarantee unconditionally without any reference, whatsoever, to the Contractor.

2. We, .....’ Branch, Kolkata ..... /Haldia, further agree that a mere demand by the **Board** at anytime and in the manner aforesaid, is sufficient for us, .....Branch, Kolkata ..... /Haldia, to pay the amount covered by this Bank Guarantee in full and in the manner aforesaid and within the time aforesaid without reference to the Contractor and no protest by the Contractor, made either directly or indirectly or through court, can be valid ground for us, ..... Branch, Kolkata ...../Haldia, to decline or fail or neglect to make payment to the **Board** in the manner and within the time aforesaid.

3. We,... .. Branch, Kolkata ...../Haldia, further agree that the Bank Guarantee herein contained shall remain in full force and effect, during the period that is taken for the due performance of the said contract by the Contractor and that it shall continue to be enforceable till all the dues of the **Board** under and/or by virtue of the terms and conditions of the said contract, have been fully paid and its claim satisfied and/or discharged in full and/or till the **Board** certify that the terms and conditions of the said contract have been fully and properly observed/fulfilled by the Contractor and accordingly, the **Board** have discharged the Bank Guarantee, subject however, that this guarantee shall remain valid upto and inclusive of .....day of.....and subject all so that the provision that the **Board** shall have no right to demand payment against this guarantee after the expiry of 6 (six) calendar months from the expiry of the aforesaid validity period upto.....or any extension thereof made by us, .....Branch, Kolkata..... /Haldia, in further extending the said validity period of this Bank Guarantee on Non-judicial Stamp Paper of appropriate value, as required / determined by the **Board**, only on a written request by the **Board** to the Contractor for such extension of validity of this Bank Guarantee.

4. We, .. ..Branch, Kolkata .. .. /Haldia, further agree that, without our consent and without affecting in any manner our obligations hereunder, the **Board** shall have the fullest liberty to vary from time to time any of the terms and conditions of the said contract or to extend the time for full performance of the said contract including fulfilling all obligations under the said contract by the Contractor or to postpone for any time or from time to time any of the powers exercisable by the **Board** against the Contractor and to forebear or enforce any of terms and conditions relating to the said contract and We,.. ..Branch, Kolkata... .. /Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the Contractor or for any fore-bearance, act or commission on the part of the **Board** or any indulgence by the **Board** to the Contractor or by any such matter or thing of whatsoever nature, which under the law relating to sureties would, but for this provision, have effect of so relieving us, ....Branch, Kolkata ... .. /Haldia.

5. We, ..... Branch, Kolkata ... .. /Haldia do also agree that the **Board** at their option shall be entitled to enforce this Guarantee against

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

us .....Branch, Kolkata ...../Haldia as principal debtor in the first instance without producing against the Contractor and notwithstanding any security or other guarantee that the **Board** may have in relation to the Contractor's liabilities.

6. We,.....Branch, Kolkata... .. /Haldia, lastly undertake not to revoke this Bank Guarantee during its currency except with the previous consent of the **Board** in writing.

Note:

B) Receiver's details to be mentioned as ICICI Bank, IFSC ICIC0003507 Branch- Haldia Township Branch, in BG text at which SFMS IFIN 760 messages to be sent by issuing Bank, to establish the authenticity of given BG.

SIGNATURE... ..

NAME.....

DESIGNATION.....

( Duly constituted attorney for and on behalf of )

BANK. . . . ., . . . .

BRANCH.....

KOLKATA... .. /HALDIA

( OFFICIAL SEAL OF THE BANK)

**Pro-forma of Affidavit for exemption from ESI ACT**  
**(On Non-Judicial Stamp Paper of worth Rs.10/-)**  
**SDM(P&E)/T/18/2023-2024**

**BEFORE THE 1<sup>st</sup> CLASS JUDICIAL MAGISTRATE**  
**AT AFFIDAVIT**

I..... son of.....aged about.....years, by faith.....by occupation ....., residing at ....., do hereby solemnly affirm and declare as follows:

THAT I am the proprietor/partner of ..... having office at..... and carrying on business on the said name and style.

(In case the above Deponent is an enlisted Contractor at Syama Prasad Mookerjee Port, Kolkata, the same should be mentioned in the affidavit).

THAT my aforesaid Firm is exempted from E.S.I. Act and the said Firm has no valid E.S.I. Registration.

THAT the present affidavit is to be filed before the Syama Prasad Mookerjee Port, Kolkata, as per the Clause No. .... of the Tender No. .... issued by the Syama Prasad Mookerjee Port, Kolkata, in respect of the work (the work is to be mentioned).

THAT the statements made above are all true to the best of my knowledge and belief.

DEPONENT Identified by me.

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Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC, SMPK.

**Indemnity Bond for exemption under ESI ACT**

**SDM(P&E)/T/18./2023-2024**

**(On the Rupees Fifty Non-Judicial Stamp Paper of worth 50/-)**

BY THIS BOND

I, Shri/Smt. ...., son of Shri/Smt. ....  
Residing at ..... by occupation ..... the Partner  
/Proprietor /Director, having office at ....., am a tenderer under Plant and  
equipment Division, Syama Prasad Mookerjee Port, Kolkata, Haldia Dock Complex , (A Statutory Body  
under MPT Act, 1963).

WHEREAS, the said Syama Prasad Mookerjee Port, Kolkata, had asked the every tenderer, who is not  
covered under E.S.I. Act or exempted to furnish an Indemnity Bond in favour of Plant and equipment  
Division, Syama Prasad Mookerjee Port, Kolkata, Haldia Dock Complex against all damages and  
accidents to the Labourer/Tenderer/Contractor.

NOW THIS BOND OF INDEMNITY WITNESSETH THAT the Tenderer/Contractor named herein  
above shall indemnify the Syama Prasad Mookerjee Port, Kolkata, against all damages and accidents  
occurring to the Labourers of the Tenderer/Contractor as demanded by the Syama Prasad Mookerjee Port,  
Kolkata, and which shall be legal an/or claimed by the Syama Prasad Mookerjee Port, Kolkata, during the  
execution of the work stated in the e-tender No. .... Of .....

AND the Contractor hereunder agrees to indemnify and at all times keep indemnified the Syama Prasad  
Mookerjee Port, Kolkata, and its administrator and representative and also all such possible claim or  
demand for damages and accidents.

IN WITNESS WHEREOF

I,.....the Partner/ Proprietor/ Director.....  
hereto set and seal this the.....day of.....in the year .....at .....

(Signature of the Indemnifier)

Surety-I:Signature:..... Name :.....  
Address : .....

Surety-II:Signature: ..... Name : .....  
Address : .....

Witnesses:Signature: ..... Name: .....  
Address:.....

Design, Supply, Installation, Testing and Commissioning of 35 Nos. 30M high Hot Dip Galvanized High Mast type Lighting Tower with LED  
Luminaries and replacement of HPSV Luminaries by LED Luminaires on existing 50 Nos. 30M high Mast & 15 Nos. 27.5 Mtrs. Lattice type lighting  
towers and allied works along with Comprehensive Maintenance Contract for the period of 5 years including 2 years DLP at different zone of HDC,  
SMPK.