

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

[Tender No. SDM (P&E)/T/ 74 /2020-2021

&

E-Tender No. 2020_KoPT_600112_1]

FOR

**Design, Supply, Installation, Testing and Commissioning of 25 Nos.
30 Mtrs. High Hot Dip Galvanized High Mast Tower with LED fitting
and replacement of LED luminaires on 40 Nos. existing 30 Mtrs. High
Mast along with Comprehensive Maintenance Contract of 5year at
Haldia Dock Complex, SMP, Kolkata (Phase-II)**

Dec – 2020

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**SYAMA PRASAD MOOKERJEE PORT, KOLKATA
(FORMERLY KOLKATA PORT TRUST)
HALDIA DOCK COMPLEX
SHORT E-TENDER NOTICE**

E-Tender No. 2020_KoPT_600112_1

Online e-tenders are invited for the work of “**Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)**”.

Date of Pre-Bid meeting: **28.12.2020**, 11:00 Hrs. onwards.

Closing date & time of online submission of e-tender: **11.01.2021**, up to 15:00 Hrs.

For details of tender and any corrigendum / addendum, please visit CPPP's e-portal <https://eprocure.gov.in/eprocure/app>

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

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

HALDIA DOCK COMPLEX

NOTICE INVITING E-TENDER

(Tender No. SDM(P&E)/T/ 74 /2020-2021)

E-Tender No. 2020_KoPT_600112_1

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 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30 Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 years at Haldia Dock Complex, SMP, Kolkata (Phase-II)**”

2.1 MINIMUM ELIGIBILITY CRITERIA (MEC):

- 2.1.1** The average annual financial turnover of the bidder, during the last three (3) years, ending 31st March 2020, must be at least **Rs 3, 42, 40,276.00**. Auditor’s Report of the bidding firm, certified by Chartered Accountant (CA), for the years 2017-18, 2018-19 and 2019-20 including relevant Audited Balance Sheets and Profit & Loss Accounts, should be made available.

Note: The bidder upload the scanned copies of Annual Financial Turnover Statement (certified by CA) for the years 2017-18, 2018-19 and 2019-20 along with Balance Sheets and Profit & Loss Accounts. ***In case the bidder fails to submit Audited Balance Sheets and Profit & Loss Accounts for the year 2019-20, Audited Balance Sheets and Profit & Loss Accounts for the year 2016-17 would be considered for calculation of average annual financial turnover.***

- 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 :-

- a) Three similar completed works of contract value not less than **Rs 4,56,53,701.00** each.

Or

- b) Two similar completed works of contract value not less than **Rs 5,70,67,127.00** each.

Or

- c) One similar completed work of contract value not less than **Rs 9,13,07,403.00**

The term “*similar works*” means –

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

Note: 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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

completion, value of work done, etc.

- 2.1.3** Valid Electrical Contractor's License issued by competent authority of State / Central Govt. in line with The Indian Electricity Rules, 1956.

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

2.2 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 2017-18, 2018-19 and 2019-20 or 2016-17, 2017-18 and 2018-19 as the case may be.**
- 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, etc. Work Experience as a sub-contractor or supply contractor shall not be considered as requisite qualification.
- c) Scanned copy of **Power of Attorney (if applicable).**
- d) The bidder(s) should submit illumination design considering design criteria as mentioned in technical specification [section-VI, clause 2 A)].

2.2. B. OTHER DOCUMENTS:

- i. Goods and Services Tax (GST) Registration Certificate, issued by Government of India.
- ii. 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.
- iii. 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.
- iv. Registration certificate of **Employees' State Insurance (ESI)** authority, if applicable.
- v. 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 **Kolkata Port Trust** 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.
- vi. PAN Card, issued by Income Tax Department, Government of India.
- vii. Certificate of **MSME / Micro & Small Enterprises (MSEs) / DIC / SSI / National Small Industries Corporation (NSIC)** to get benefit in this regard.

- 2.3** 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. Essential documents means papers related to “Minimum Eligibility Criteria (MEC)”, including Bid Document fee, Earnest Money Deposit and Power of Attorney.

2.4 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.

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

2.5 PARTICIPATING IN THE BIDDING PROCESS:

The bidders will have to participate in the electronic bidding process through the website of CPPP (<https://eprocure.gov.in/eprocure/app>) only.

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

SCHEDULE OF TENDER (SOT)

(Tender No. SDM(P&E)/T/ 74 /2020-2021)

E-Tender No. 2020_KoPT_600112_1

3.1.	Name of work	::	Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30 Mtrs. High Mast along with comprehensive maintenance contract of 5 years at Haldia Dock Complex, SMP, Kolkata (Phase-II).
3.2.	Tender Inviting Authority	::	General Manager (Engg.), Haldia Dock Complex, SMP, Kolkata
3.3.	Mode of Tender	::	e-Procurement System. Online (Part I: Pre-qualification & Techno-commercial Bid and Part II: Price Bid) through https://eprocure.gov.in/eprocure/app of CPPP No physical tender is acceptable by Haldia Dock Complex, SMP, Kolkata.
3.4.	Estimated Cost	::	Rs 11,41,34,253.20 (excluding GST).
3.5.	i) Bid Document Fee (Cost of bidding documents)	::	The intending bidders should deposit Rs 2,950.00 (Indian Rupees: Two thousand nine hundred and fifty) only [including GST @ 18%] , as Bid document Fee (non-refundable), to Haldia Dock Complex, through DD/Banker Cheque in favour of Kolkata Port Trust on any Scheduled/Nationalized Bank payable at Haldia, otherwise their offer will be summarily rejected. Copy of the DD/Banker's Cheque 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.
	ii) Earnest Money Deposit (EMD)	::	<p>The intending bidders must deposit Rs 22,82,685.00 (Indian Rupees: Twenty-two lakh eighty-two thousand six hundred eighty-five) only, as Earnest Money, to Haldia Dock Complex, through DD/Banker Cheque in favour of Syama Prasad Mookerjee Port, Kolkata on any Scheduled/Nationalized Bank payable at Haldia, otherwise their offer will be summarily rejected.</p> <p>Alternately the intending bidder may deposit an amount of Rs.10,00,000.00 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 Rs 12,82,685.00 in the form of Bank Guarantee valid for 180 days with a further claim period of three (3) months. Copy of the DD/Banker's Cheque/Bank Guarantee should be uploaded. In case the said Earnest Money is not deposited by the</p>

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

			<p>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</p> <p>Name:-HALDIA DOCK COMPLEX</p> <p>IFSC Code:-UTBIOHDCF75</p> <p>MICR Code:-721027006</p> <p>NOTE ::</p> <p>For exemption of Bid Document Fee and EMD to upload the scanned copy of the certificate from MSME / Micro & Small Enterprises (MSEs) / DIC / SSI / National Small Industries Corporation (NSIC) or any empowered Central / State Govt. authority is required in electronic format.</p> <p>(ii) Earnest money and cost of tender document are to be physically deposited at the office of Tendering Authority [Sr. Dy. Manager (P&E), Operational Administrative Building (1st floor), Chiranjibour, 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 Syama Prasad Mookerjee Port, Kolkata payable at Haldia before opening of the tender, as specified in the Tender Document.</p>
3.6.	Completion Period	::	12 months
3.7.	Bid Validity	::	180 days.
3.8.	Performance Bank Guarantee / Security Deposit	::	<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>
3.9.	Guarantee Period	::	24 months for complete projects.
3.10.	Date, time and venue of Pre-Bid Meeting (off-line).	::	<p>28.12.2020 at 11:00 Hrs (IST).</p> <p>Office of Sr. Dy. Manager (P&E);</p> <p>Chiranjibpur; P.O. Haldia, Dist. Purba Medinipur;</p> <p>PIN: 721 604; West Bengal; India.</p>
3.11.	i) Starting date & time of submission of e-Tender at https://eprocure.gov.in/epr ocure/app	::	01.01.2021 from 11:00 Hrs. (IST).

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

	ii) Closing date & time of submission of e-Tender at https://eprocure.gov.in/epr/ocure/app	::	11.01.2021 up to 15:00 Hrs. (IST).
	iii) Date & time of opening of Part-I (Techno-commercial Bid)	::	12.01.2021 up to 15:30 Hrs. (IST) onwards.
	iv) Date & time of opening of Part-II (Price Bid)	::	Shall be informed separately.
3.12.	Address of the Employer	::	Syama Prasad Mookerjee Port, Kolkata (Formerly Kolkata Port Trust) 15 Strand Road, Kolkata – 700 001, West Bengal, India.
3.13.	Address of Engineer	::	General Manager (Engineering), Haldia Dock Complex, Syama Prasad Mookerjee Port, Kolkata. <u>Address:</u> Engineering Department Jawahar Tower Complex ; P.O. Haldia Township; Dist. Purba Medinipur ; PIN: –721607, West Bengal, India. Telephone no. : + 91-3224-264496 E. mail : aganesan.hdc@kolkataporttrust.gov.in
3.14.	Address of the Engineer's representative	::	Shri R.N.Roy, Sr. Dy. Manager (P&E), Haldia Dock Complex, Operational Administrative Building (1 st floor), Chiranjibpur; P.O. Haldia, Dist. Purba Medinipur; PIN: 721 604; West Bengal; India. Telephone no. : + 91-3224-252526 Mobile no. : + 91 94340 74411 E. mail : rnroy.hdc@kolkataporttrust.gov.in

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

SECTION – IV

Important instructions for E-procurement

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.**
- 4.1.2 Further, bidders are requested to go through the following information and instructions available on the CPP Portal <https://eprocure.gov.in/eprocure/app> before responding to this e-tender:**
- Bidders Manual Kit
 - Help for Contractors
 - FAQ

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 (CPP Portal):

- (i) Shri Nazmush
Mob: +91 95632 51950
E-mail: webhelpdesk@gmail.com
- (ii) **See CPP Portal for contact details.**

- 4.2 4.2.1** All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.
- 4.2.2** E-tender cannot be accessed after the due date and time mentioned in NIT.
- 4.2.3** SMP,Kolkata 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.
- 4.2.4** Any order resulting from this tender shall be governed by the terms and conditions mentioned therein.
- 4.2.5** No deviation to the technical and commercial terms & conditions are allowed.
- 4.2.6** The bidders must upload all the documents required as per terms of tender. Any other document uploaded which is not required as per the terms of the tender shall not be considered.
- 4.2.7** The bid will be evaluated based on the filled-in technical & commercial formats.
- 4.2.8** Bidder has fully read and understood the entire Tender Document, GCC, Corrigendum and Addenda, if any downloaded from under the instant e-tender and no other source, and will comply to the said document, GCC, Corrigendum and Addenda".
A declaration in this regard is to be made by the bidder.
- 4.2.9** (A) Tender will be opened electronically on specified date and time as mentioned

in the NIT. Bidder's can witness electronic opening of Bid.

(B) Necessary addendum/corrigendum (if any) of the tender would only be hoisted in the CPP Portal

4.3 Instructions related to Micro & Small Enterprises (MSEs):

- 4.3.1** For exemption of Bid Document Fee and EMD certificate from MSME / Micro & Small Enterprises (MSEs) / DIC / SSI / National Small Industries Corporation (NSIC) or any empowered Central / State Govt. authority is required.
- 4.3.2** **Micro & Small Enterprises (MSEs)** registered with **NSIC under Single Point Registration Scheme (SPRS)** are eligible to get the benefits under new **Public Procurement policies** for MSEs as notified by the **Government of India, Ministry of Micro, Small & Medium Enterprises (MSME)** in **The Gazette of India** vide No. 503, dated 26.03.2012.
- 4.3.3** When splitting of tender quantity is not possible purely on technical ground, Trustees reserve the right not to negotiate price with MSE if their price is within the band of L1+15% in comparison with L1 price of non-MSE for consideration of award of order for 20% of tender quantity against any item as per new public procurement policy.
- 4.3.4** If **Micro & Small Enterprises (MSEs)**, registered with NSIC [under single point registration scheme] intend to participate with respect to items for which they are not registered with NSIC, then they will have to deposit full amount of **Bid Document Fee** and **Earnest Money**, in accordance with the **Schedule of Tender (SoT)**. Otherwise, their offer with respect to such items (for which they are not registered with NSIC) will not be considered.

4.4 Other Instructions related to e-Procurement:

- 4.4.1** All notices and correspondence with the bidder(s) shall be sent by e-mail only during the process till finalization of tender by HDC, SMP, Kolkata. Hence, the intending bidders are required to ensure that their e-mail IDs provided are valid and updated at the stage of registration of bidders with CPPP (i.e., Service Provider). The intending bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).
- 4.4.2** In all cases, an intending bidder should use their own ID and Password, along with Digital Signature, at the time of submission of their bid. It is mandatory that all bids are submitted with Digital Signature Certificate (DSC), otherwise the same will not be accepted by the system.
- 4.4.3** Addenda, Corrigenda and Queries & Clarifications (with respect to the instant e-Tender), if any, would be hosted in the e-Procurement portal of CPPP.

Since there is no provision to take out the list of intending bidders downloading the bidding documents from the websites mentioned in the Tender Notice, the intending bidders are requested to check the website of CPPP to ensure that they have not missed any Addenda, Corrigenda and Queries & Clarifications, uploaded against the instant e-Tender, after downloading the bidding documents. The responsibility of downloading such Addenda, Corrigenda and Queries & Clarifications, if any, will be that of the intending bidders.
- 4.4.4** No deviation/variation of the techno-commercial terms and conditions of the bidding documents will be considered by HDC, SMP, Kolkata. Submission of bid in the e-Tender platform by any bidder confirms their acceptance of the techno-commercial

terms and conditions of the bidding documents.

- 4.4.5** HDC, SMP Kolkata reserves the right to accept or reject any bid (in full or part) and to annul the bidding process and to reject all bids, at any time prior to contract award, without assigning any reason thereof and without thereby incurring any liability to the bidders.
 - 4.4.6** Any order resulting from this open e-Tender shall be governed by the terms and conditions mentioned therein.
 - 4.4.7** All electronic bids submitted during the e-Tender process shall be legally binding on the bidders. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by HDC, SMP, Kolkata will form a binding contract, between HDC, SMP, Kolkata and the bidder, for execution of the work. Such successful bidder shall be called hereafter the 'CONTRACTOR'.
 - 4.4.8** The bids will be evaluated based on the filled-in Technical & Commercial formats and the requisite documents submitted (uploaded) by the bidders.
 - 4.4.9** The documents uploaded by bidder(s) will be scrutinized. During scrutiny, in case any of the information furnished by the bidder is found to be false, Earnest Money Deposit of such defaulting bidder(s) will be forfeited. Punitive action, including suspension and banning of business, can also be taken against such defaulting bidder(s).
 - 4.4.10** HDC, SMP, Kolkata, at its discretion, may extend the closing date & time of e-Tender, prior to the closing date & time of e-Tender mentioned in the Schedule of Tender (SoT). However, the closing date & time of e-Tender will not be extended, under any situation, after the due date is over.
- 4.5 Opening of Part-I (i.e. Pre-qualification & Techno-commercial Bid) and Part-II (i.e. Price Bid) :**
- 4.5.1** **Part I** (Pre-qualification & Techno-commercial Bid) will be opened electronically on specified date and time, as given in the Schedule of Tender (SoT). Bidder(s) can witness electronic opening of bid(s).
 - 4.5.2** **Part II** (Price Bid) will be opened electronically of only those bidder(s), who qualify (ies) in the "Pre-qualification & Techno-commercial Bid" [Part I]. Such bidder(s) will be intimated date of opening of Part II (Price Bid), through e-mail, to valid e-mail ID(s) confirmed by them.

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 :**

- (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://eprocure.gov.in/eprocure/app> 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 CPP 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 CPP 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 CPP 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 **120 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 deposit an amount specified in the **Schedule of Tender (SOT)**, as **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 the certificate from MSME / Micro & Small Enterprises (MSEs) / DIC / SSI / National Small Industries Corporation (NSIC) or any empowered Central / State Govt. authority.

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 Syama Prasad Mookerjee Port,Kolkata, Haldia Dock Complex in writing) making it unacceptable to the Syama Prasad Mookerjee Port,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;
 - and / or,
 - 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 CPP 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 **Pre-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://eprocure.gov.in/eprocure/app> 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 **CPPP** only. *Price indicated anywhere else, in 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

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.

5.31 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 as well as lowest wattage designed for each High Mast.

5.32.2 In case it is found that the quoted “**TOTAL PRICE**” as well as lowest wattage designed for each High Mast 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.

SECTION – VI
TECHNICAL SPECIFICATION

.....
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 dispatch to the site.
7. The rates are to be firm and inclusive of all taxes, levies, insurance, freight, octroi, Work Contract Tax, Service Tax etc. Service tax will be reimbursed by the department, in full, on presentation of receipted original deposit slip, against the work. Nothing extra will be paid.
8. 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.
9. 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.
10. 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.

11. 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 contractor in not complying with the above condition shall be the entire responsibility of the contractor.
12. All concealed work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.
13. 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.
14. All panels/DB shall be suitable for 45°C ambient temperature.
15. The MCB shall be of the same make as that of MCB DB's. Contractor shall obtain approval of the 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.
16. 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).
17. 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.
18. 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.
19. All model of modular accessories required for the work shall be got approved from the Engineer-in-charge among the approved 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.
20. Contractor shall have to check the site order Book for any instructions of 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.
21. 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.

22. MCCB's shall be used with rotary handle and terminal spreaders and all terminals shall be shrouded to avoid direct contact.
23. 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.
24. 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 in charge. The same is deemed included in the scope of work.
25. All measuring and indicating instruments shall be protected through MCB's of 0.5 Amps rating.
26. General arrangement drawing of the switchboard, LT/HT switchgear shall be got approved by the Engineer-in-Charge before commencement of manufacturing.
27. 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.
28. Ratings, sizes and quantities shall be checked and considered for satisfactory operation of electrical system complete in all respect.
29. Conduits, Switchboards, Sockets to be provided on walls shall be open type unless specifically approved by Engineer.
30. Conduits on ceiling in existing system may be provided on surface and in new construction shall be open type.
31. All measuring and indicating instruments shall be protected through MCB's and isolating switches.
32. Breaker shall have LCD display to show the metering and protection parameters.
33. **Package outdoor Units, Cables, Load Point Panels and High Masts will be inspected in the respective manufacturer works before dispatch 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.
34. 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.
35. It is important that every equipment is tested fully before dispatch.
36. All materials for the work shall be supplied from approved list of manufacturer

and any item, not covered in approved list, shall be supplied after getting approval from Engineer or his authorized representative.

37. 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.
38. All fees payable to concerned authorities and other local bodies if any shall be paid by the contractors.
39. 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.
40. 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.
41. Contractor shall have a valid “A” class electrical contract licence with HT installation issued by appropriate authorities.
42. Test certificates both type test and routine tests wherever required shall be furnished along with supply for all Electrical/Mechanical items.
43. 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. Subjected that the contractor provides (Rechyem/3M make) straight through joints free of cost. Also, the joint shall be located, by making a pit (civil work) for free maintenance and future identification.
44. Inspection / acceptance, in no way shall absolve the contractor from supplying material as per standards / codes and warranty or other obligations under the contract.
45. 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.
46. All electrical works shall be tested by the contractor in the presence of TPI Agency and to the entire satisfaction as per IE Rules.
47. 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 25 Nos. new 30 Mtrs. High [Hot Dip Galvanised] High Mast and 40 Nos. existing 30 Mtrs. High [Hot Dip Galvanised] High Mast at different zones of HDC, SMP, Kolkata for improvement of illumination level.

Regulation:-

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.

Criteria:-

Selection of LED Luminaire, beam angle and secondary lens shall be such that:-

- 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
- ii) If the illumination level of 25 Lux is not achieved at a radius of 60 Mtrs. of each High Mast, the contractor would be required to provide additional fittings to meet above requirements. However, cost toward additional fittings will have to be borne by the contractor and contractor shall pay energy charges for a period of 10 years for the additional fitting to HDC.

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

- a) 2 Nos. 11kV, 630A, VCB Panel of 25kA for 3sec. for drawing power from existing sub-stations.
- b) **3C x 185Sqmm. 11(E) kV grade XLPE Aluminium armoured cables** along with heat shrinkable type end termination and St. through Joints from existing Substation to outdoor Package Substations.
- c) Two new **outdoor Package Substation** to accommodate transformer together with HT & LT switch Gear each comprising of

❖ Outdoor Package Sub-station 1: -

- i) Transformer: -1 No.500 kVA, 11/0.433 kV Dry Type **Resin Cast** transformer for LT supply.
- ii) HT Panel;- a) 1 No. 11 kV SF6 encapsulated VCB as incomer
b) 2 Nos. Load Break switches / Isolator (one for incoming and one for Outgoing).
- iii) 1 No. 800A, Copper Bus bar, LT panel board/ switchgear.
- iv) From **11 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 (4 Nos. 800A Silver Plated Copper bus bar P+N).**
- vi) 1 No. LT **APFC (Microprocessor based)** capacitor panel with capacitor bank of 150 kVAR rating.

❖ Outdoor Package Sub-station 2: -

- i) Transformer: -1 No.500 kVA, 3.3/0.433 kV Dry Type **Resin Cast** transformer for LT supply.
- ii) HT Panel; - a) 1 No. 11 kV SF6 encapsulated VCB as incomer
b) 2 Nos. Load Break switches / Isolator (one for incoming and one for Outgoing).
- iii) 1 No. 800A, Copper Bus bar, LT panel board/ switchgear.
- iv) From **11 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 (4 Nos. 800A Silver Plated Copper bus bar P+N).**
- vi) 1 No. 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 25 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 Towers:-

- a. Dismantling, Transportation, Erection, Testing and commissioning of **7Nos. existing 30Mtrs. High Mast Towers including Lumanaries.**
- b. Design, Supply, Erection, Testing and Commissioning of LED type Luminaire on existing 40 Nos.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 40 Nos. existing HM Towers. Design, supply, Installation, testing and commissioning of LED luminaire along with other accessories on 40 Nos. existing 30 Mtrs. High Mast 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 **40 Nos. existing 30Mtrs. High Mast 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).

C) Civil Works

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

- a. Construction of **RCC** Foundation for placing Outdoor Package Substation, High Mast type lighting tower & Load point Panels and work required for commissioning of Electrical Facilities.
 - b. Construction of **RCC** Foundation for 07Nos. existing 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 construction of **Pile** Foundation for High Mast type lighting tower.
- D) 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 commissioning of the system.**

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. Signaling 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 signaling condition on individual panels of solid state facia window type. Common audio signaling with Accept, Reset, and Test push buttons for the switchboard where common annunciation panel is not specified. Audio signaling 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.

- Design ambient temperature shall be 50°C & final operating temperature under continuous operation in enclosure limited to 90°C by thermometer method.
- 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.
- Bus bar support insulators of non-hygroscopic material having high impact and dielectric strength with an anti tracking contour.

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

<u>AC – Black</u>	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/selector 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 3 NO and 3 NC 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:

	Visual	Audio
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 4 NO contacts all master trip relays shall have 2 NO 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.
- Earthing truck (if included) shall have PT and alarm provision. (Separate trucks shall be provided for feeder and bus earthing through bus PT panel in each switchboard). One no. earthing truck for feeder earthing and one no. for busbar earthing shall be provided for each board. It shall not be possible to use bus-earthing truck for feeder earthing and vice-versa.
- 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 conforming to IS 9224-1979.

xxv) Protective Earthing

- Continuous earth bus of minimum size 50x6 mm of copper or equivalent aluminum/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 frame work 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 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, 25kA VCB for 3sec.

Incoming Feeder with PT:

This includes supply at site, Vacuum Circuit Breaker, suitable for 12kV, 25kA, 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 3 nos. 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) Incoming cable entry box shall be provided for the required cable entry.
- 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 25 kA rms
- e) Circuit breaker
 - i) Rated breaking capacity Symmetrical. 25 kA / 3 Sec.
 - ii) Rated making capacity 62.5 kA
 - iii) Total breaking time 7 cycles maximum

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

- f) Type of charging: Manual as well as motorized mechanism with 230V AC operated motor.
- g) Make: As per the list of makes enclosed herewith.
- h) Shunt trip coil : 110 V DC
- i) Closing coil : 110 V DC
- j) Busbar chamber with Copper busbars, heat shrinkable PVC sleeved/ powder coated with colour code. The busbars shall be of high conductive electrolyte copper.
- k) 230VAC space heaters with ON-OFF switch and thermostat.
- l) 1phase, resin cast with fuse unit, draw out, line connected PT ratio of $3300/\sqrt{3}/110/\sqrt{3}$ Volts of 100VA burden to meet with auxiliary power requirement of metering and protection. Having accuracy of 0.5/3P.
- m) 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.
- n) The Trivector meters shall be digital type of approved make and it should display Amps, Volts, kVA, kW, kWhr, kVAR, PF and MD etc. The meter shall provide with external port for remote monitoring.
- o) The Multi-Function Meter (MFM) shall be digital type of approved make and it should display Amps, Volts, kVA, kW, kWhr, kVAR, PF, Frequency and etc. The meter shall provide with external port for remote monitoring.
- p) Breaker ON-OFF LED indicating lamp.
- q) Circuit trip/healthy indicating LED lamp with pushbutton.
- r) Breaker spring charged LED lamp indication.
- s) TNC (Trip Neutral Close) switch.
- t) 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
- u) Operating handle, spring charging handle & other required accessories shall be supplied.
- v) Cable box suitable for receiving single length of 4Rx 1C x 1000 Sq. mm HT XLPE cable.
- w) Hand held lamps for panel internal illumination shall be provided with 240V AC source.
- x) Hooter for tripping.
- y) 110V DC external supply shall be provided for control circuit of complete breaker operation.
- z) Bus bar support insulator:-Non hygroscopic, track resistant, high strength insulator. (Calculation for validating dynamic force withstands capability to be submitted during drg. Approval)

INSTALLATION OF INDOOR HT VCB PANEL:

This includes installations, testing and commissioning of VCB at 3.3kV sub-station with 3.3KV 800A, Copper Bus Bar, existing Panel. Dummy panel if required, in extreme cases would be allowed. Contractor may also offer single incomer cum outgoing 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 &

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commissioning of VCB and shall be done as directed by Engineer.

Tentative lay out:-



- Existing 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 2nos. Load break switches)
- b) 11 / 0.433 kV and 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 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 **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 & of Copper 50mmx6mm for 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

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 11 kV, 50 Hz, 3 phase AC and as per Single Line Diagram complete in all respects with all equipment fittings and accessories for efficient and trouble free operation.

- a) 11 kV, 630A SF6 encapsulated VCB with self-tripping mechanism having external dc source with numerical relay with IDMT, over current, earth fault and Instantaneous protection including TVM.
- b) 11KV $\sqrt{3}$ / 110/ $\sqrt{3}$ V PT of suitable VA along with HRC Fuses.
- c) 02Nos. 630A load Break switches / Isolator shall be provided for ring main system (one for incomer and one for outgoing).
- d) 11KV 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 11 kV
- g) System maximum voltage 12 kV
- h) Frequency 50Hz
- i) Insulation level
 - i) 1.2/50 microsecond Impulse withstand voltage 75 kV peak
 - ii) One minute power frequency withstand voltage 28 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 $11000/\sqrt{3} : 110/\sqrt{3}$ or $3300/\sqrt{3} : 110/\sqrt{3}$
 - iii) Reference Standard As per IS-3156
 - iv) Over voltage factor As per IS-3156
 - v) Accuracy class 1.0
 - vi) Insulation Level 75 kV Peak / 28 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 75 kV Peak / 28 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.

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 XLPE cable and output of the Transformer for specified kV and output of the Transformer to the LT panel shall be by XLPE cable. 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 type of cooling shall be Natural Air cooled (AN) and the ratings for each transformer shall be as indicated in the single line diagram and BOQ.

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 and rollers 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	:	11kV/433 Volts / 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	:	2 Nos. earthing terminals, rating & diagram plate, bidirectional rollers, lifting lugs, 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 minimum losses and it shall be submitted by the Bidder.

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

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

NOTE:

Type Test Certificate of Similar type (ACB) & Rating shall be submitted by the successful tenderer.

Outgoing

Type1: For 11kV Package Sub-station

a) 250A MCCB, TP, 35 kA for 1 sec.-07Nos.

b) 400A MCCB, TPN, 35 kA for 1 sec.-01No.

Type2: For 3.3kV Package sub-station

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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.

The Capacitors control panel shall be of automatic switching type with facilities for manual control. The panel shall be a cubical type metal clad board equipped with Microprocessor based intelligence version APFC relay with 3 phase CT sensing, Switch Fuse Units with HRC fuses (feeder Control), Heavy duty contactors and metering equipment and controlling banks of capacitor mounted in ventilated compartments with IP:54 protection with bottom lowers. 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 directly 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). The capacitor offered shall be non self-heating type, super heavy duty long life MPP type conforming to IS 2834 and IS 13585.

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 are also to be provided 0.2% series Reactor to limit the fault current or inrush current during switching operations along with ON delay timer on individual feeder.

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 should be of rating as indicated in the Bill of Quantities, to 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. The ratings type and quantity of meters, instruments and protective devices shall be as per BOQ.

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, 2 NO and 2 NC 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. Minimum size of conductor for **power circuits is 4 sq mm copper**. Control circuits shall be wired with copper conductor of at least **2.5 sq. mm for CT circuits /other control circuits**.

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 11 kV 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:

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 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.	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.	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 (± 4 mm) x 125 mm (± 2 mm) x 75 mm (± 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.

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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

5.9 Cable Jointing

All Cables shall be of Single length only. No Joints are allowed. However in extreme cases based on approval from competitive 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 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 gear boxes 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 IS2062 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 3 nos 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.

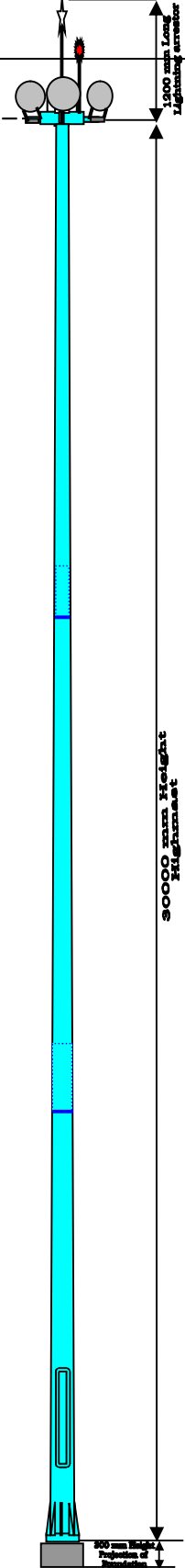
The power tool mounting shall be so designed that it will not only self supporting type but also it shall align itself perfectly with respect to the winch spindle during the operations. A handle for manual operations shall be provided as per standard practices.

Power tool shall consist of 3-phase 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 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]	10600X <u>8</u>
	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.)	<u>Minimum 100 Microns</u>
	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
	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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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	<u>Accepted manufacturer standard</u>
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	1400 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

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 submit 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.

Make of LED: CREE / LUMILEDS / NICHIA / OSRAM /CITIZEN / SEOUL / BRIDGELUX.

Make of LED Driver: PHILIPS / MEANWELL / OSRAM / BAG/ WIPRO / BAJAJ / CROMPTON / GE / LIGTHING TECHNOLOGIES.

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 & LED lamp.</u>
Glass cover	::	Heat resistance toughened clear glass cover.
Light source	::	High power , high efficiency LED
Driver	::	Drivers should have in-built protection against high voltage surge >10kVp, open circuit & short circuit.
Operating temperature	::	Minimum 50°C
Input Voltage	::	110 V – 270 V , 50 Hz
IP Rating	::	IP 65
Wattage	::	As per design (400W Minimum.)
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>

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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 incoming 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 65 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)
Incomer | :: | 01 No. |
| ii) | TP, 16 A , 415 V, MCB (10kA breaking capacity)
Out going | :: | 01 No. |
| iii) | SP, 32 A , 415 V, MCB (10kA breaking capacity)
Out going | :: | 06 Nos. |
| iv) | Power contactor, 45 A , TP,415 V, 240V AC Coil
AC-3 duty | :: | 03Nos. |
| v) | Power contactor, 9 A , TP,415 V, 240V AC Coil, AC-
3 duty | :: | 02Nos. |
| vi) | Ring type CT, Primary-60A /18mA | :: | 03Nos. |
| vii) | Push Button switch | :: | 02Nos. |
| viii) | Connecting terminals (stud type), suitable for
terminating 02 no. 3C X 6 mm ² , 1.1 kV grade,
Copper Conductor XLPE insulated ST-2 PVC
sheathed armoured cable.[for motor supply] | :: | 01 Set. |
| ix) | Connecting terminals (stud type), suitable for
terminating 01 no. 3 ½ C X 25 mm ² , 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.
- 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. Lightning protection system down conductor shall not be connected to other earthing conductors above ground level. Also no intermediate earthing connection shall be made to the lightning arrestor which shall be directly connected to the electrode. 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 65 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-in-charge, 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)
Outgoing | :: | 06 No. |
| 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)
Outgoing for tapping power directly from incoming
SDFU. | :: | 01 No. |
| iv) | 200/225Amps.TP contractor(AC-3duty) Coil voltage-
230V | :: | 01 No. |
| v) | Electro-mechanical time switch(with rechargeable battery
back up) | :: | 01No. |
| vi) | By Pass Switch | :: | 01 No. |
| vii) | Connecting terminals (stud type), suitable for terminating
06 nos. 3 ½ C X 25 mm ² , 1.1 kV grade, Aluminium
Conductor armoured XLPE cable. | :: | 01 Set. |
| 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 65 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-in-charge, 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)
Outgoing | :: | 06 No. |
| 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)
Outgoing for tapping power directly from incoming SDFU. | :: | 01 No. |
| iv) | 200/225Amps.TP contractor(AC-3duty) Coil voltage-
230V | :: | 01 No. |
| v) | Electro-mechanical time switch(with rechargeable battery
back up) | :: | 01No. |
| vi) | By Pass Switch | :: | 01 No. |
| vii) | Connecting terminals (stud type), suitable for terminating
06 nos. 3 ½ C X 25 mm ² , 1.1 kV grade, Aluminium
Conductor armoured XLPE cable. | :: | 01 Set. |
| 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 & of Copper 50mmx6mm for 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.**

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/ cadwelding 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 ingression.

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 or

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 the 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

13

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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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.
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 400Watt HPSV & 1x400Watt 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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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 07Nos. existing of 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.

14 LIST OF APPROVED MAKES

SL. No.	ITEM	Name of Manufacturers
1	Package Outdoor Sub-station	SIEMENS /SCHNEIDER/ABB
2	VCB Panel	SIEMENS /SCHNEIDER/ABB
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
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	L & T / LEGRAND / SIEMENS / ABB / SCHNEIDER
17	Sub Distribution Board	L & T / LEGRAND / SIEMENS / SCHNEIDER / HENSEL

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

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/ LIGHTING TECHNOLOGIES
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 / SCHNEIDER / 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
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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

40	Trivector (Digital) Meter	L&T / SCHNEIDER / SIEMENS / HPL SOCOMEC
41	Capacitor Panels	ABB / L&T / EPCOS / SCHNEIDER
42	Power Correction Relay Factor	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	<u>PHILIPS / BAJAJ / CROMPTON / GE/ TRANSRAIL/ VALMONT</u>
47	Items not covered above	As per samples approved by Engineer.

15 INSPECTION AND TESTING.

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

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**.

14.1 HT/LT XLPE Cables :

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

- Routine Tests** as per IS:7098-II/I
- 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.

14.2 500 kVA, 11/3.3 kV / 0.433 kV, 3 Phase, 50 Hz Package outdoor Sub-station :

- a) **Routine Tests and Temperature Rise Test** (as per IS:2026) 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.

14.3 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 equipments, 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 equipments, 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.

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

14.5 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.

14.6 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.

14.7 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.

16 Non-Comprehensive / Comprehensive Maintenance Contract

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.

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 month 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 outdoor 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) 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 through 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.

- 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, 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, Control Gear, Lamp, lamp holder, capacitor, igniter, Ballast, 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 & reflectors 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, control gear, junction box, wire rope etc. on High Mast type Lighting tower. All materials will be supplied by HDC, SMP, Kolkata.
- xiv.** Job also includes re-wiring of luminaries, Control gear, junction box, etc. on High Mast type Lighting tower. All materials will be supplied by HDC, SMP, Kolkata.
- 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.** Transporting the materials from site store to High Mast Type Lighting Tower for replacement and the old materials from the High Mast Type Lighting Tower to be return back to the site store of HDC, SMP, Kolkata (with proper acknowledgement).
- xviii.** Providing competent supervisors, skilled personnel for Maintenance with necessary safety equipment depending upon the requirement.
- xix.** 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.
- xx.** Before proceeding on any day work, the Engineer / Supervisor of the successful bidder must report to Sectional Incharges / Engineers representative of the contract, to know the work site / High Mast Type Lighting Tower to be attended on that day.

- xxi.** Before proceeding on any day work, the Engineer / Supervisor of the successful bidder must hang the Danger Board at the source of Power supply feed to the High Mast type Lighting Tower/ Feeder Pillar with intimation to Sectional Incharges / Engineers representative of the contract.
- xxii.** After Completion of the day work, the Engineer / Supervisor of the successful bidder should remove the danger board with intimation to Sectional Incharges / Engineer representative of the contract.
- xxiii.** 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.
- xxiv.** 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.
- xxv.** In case of 07Nos. relocated existing High Mast towers, Comprehensive **Maintenance Contract would start from the date of commissioning of the mast.**

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.

Existing HM Tower Foundation Drg.

FOUDATION LOADINGS	
WIND SPEED	M/SEC 50
CONCRETE MIX	VIBRATED M-20
MIN COVER (mm)	50
STEEL	Fe-415
SOIL BEARING CAPACITY	T/SQM. 5

BAR BENDING SCHEDULE

IMKD	QTY.	SIZE	LENGTH	SHAPE
T1	36	Ø12	2 495	
T2	58	Ø12	5140	
T3	12	Ø8	4592	
T4	58	Ø12	5140	

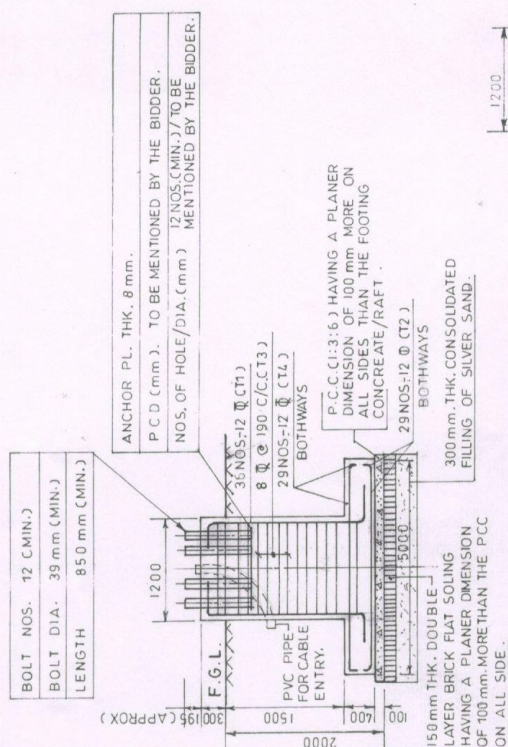
NOTES —

1. MIN. LAP LENGTH OF BARS SHALL BE 50xD. UNLESS OTHERWISE STATED.
2. THE REINFORCEMENT SHOWN IN DRAWING IS ONLY INDICATIVE

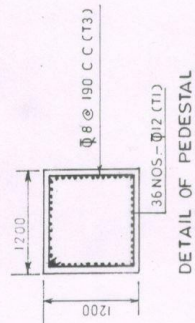
FOR TENDER PURPOSE ONLY

NAME	DT
DGN.	
DRN.	11/10/60
TCD.	
CKD.	11/10/60
APVD.	11/10/60
KOLKATA PORT TRUST HALDIA DOCK COMPLEX M C & E'S DRG. OFFICE GENERAL ARRANGEMENT FOUNDATION DRG. FOR 30 MTS. HIGHMAST.	
SCALE: INTS.	DRG. NO. SK - 329.

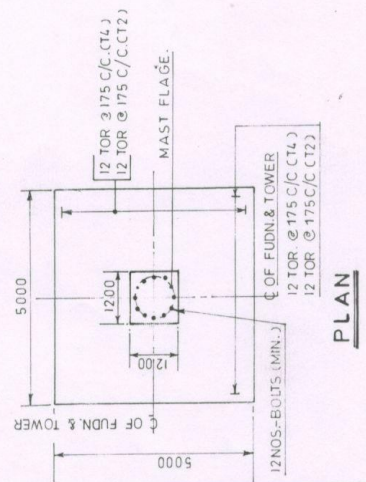
ALL DIMENSION ARE IN mm; UNLESS OTHERWISE STATED.



SECTIONAL ELEVATION



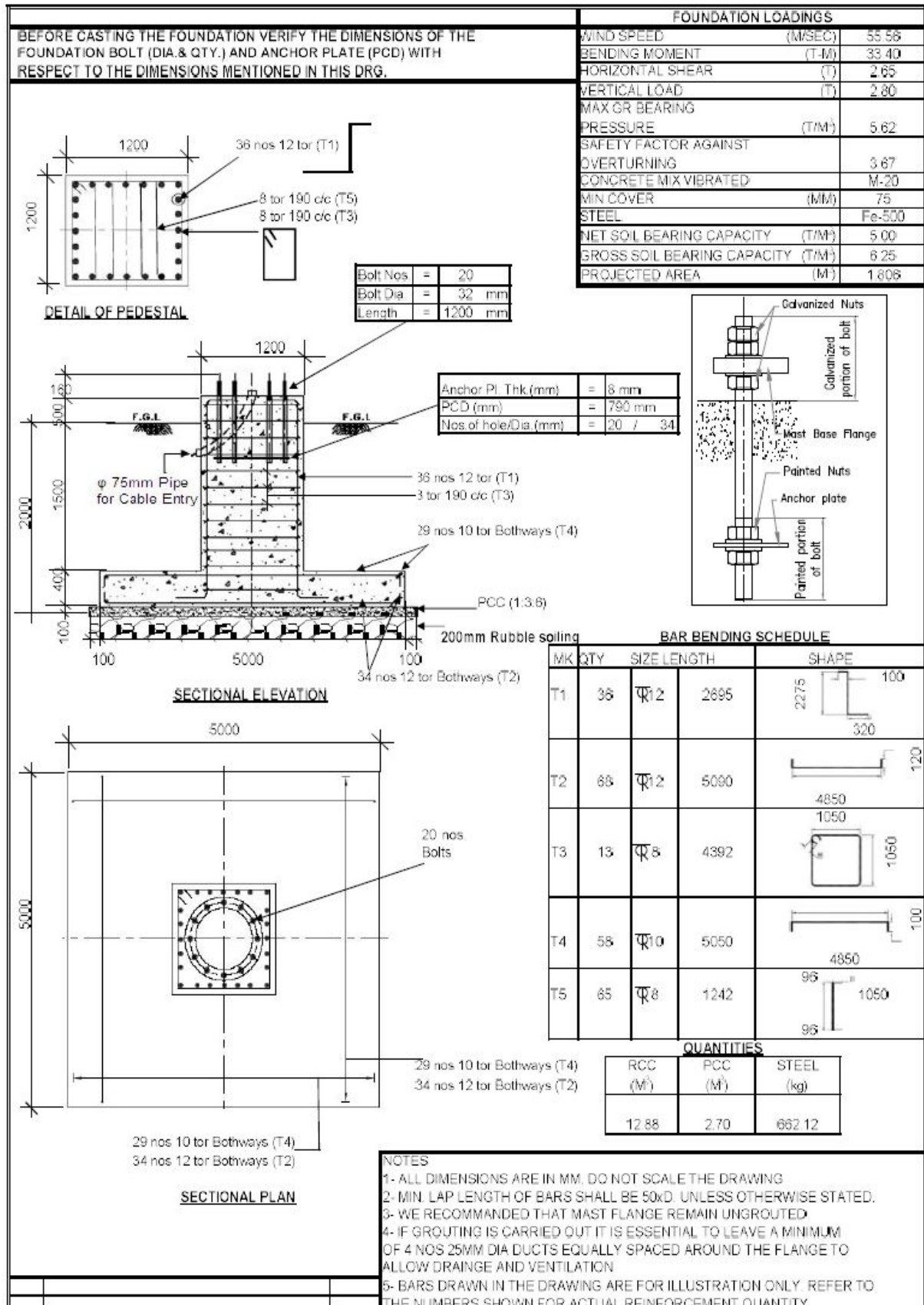
DETAIL OF PEDESTAL



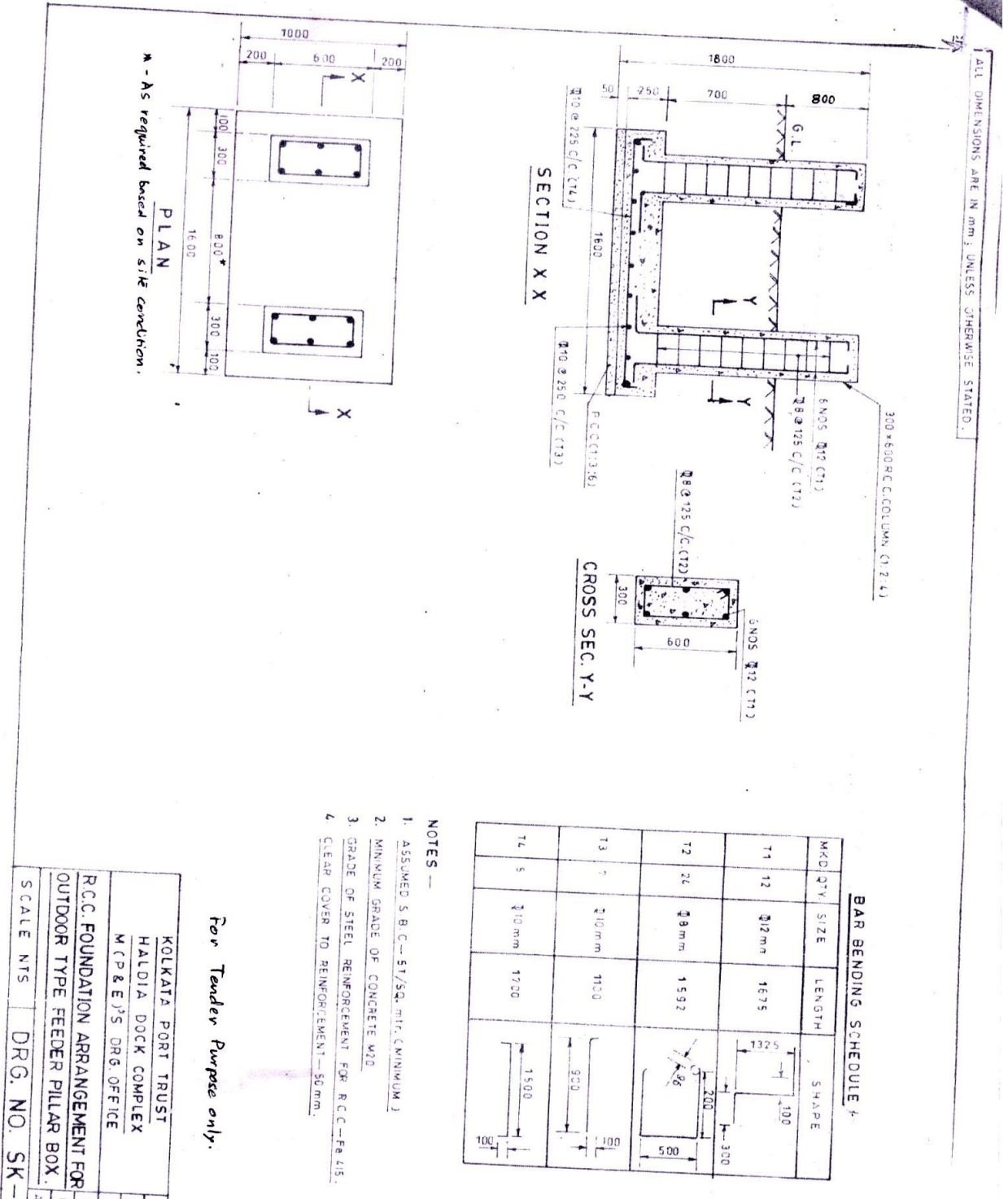
PLAN

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

New High Mast Foundation Drg.



Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).



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

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SECTION – VII

General Conditions of Contract (GCC)

Table of Clauses

A.	GENERAL PROVISIONS
1)	Definitions
2)	Contract documents
3)	Interpretations
4)	All Drawings are Trustees' property
5)	Language
6)	Notices
7)	Governing Law
8)	Patent Rights
9)	Stamp duty & other expenses
10)	Indemnity
11)	Employer's lien
12)	Additions and alterations
B.	THE ENGINEER
13)	Instructions of the Engineer or Engineer's Representative
14)	Engineer's power and authority
15)	Power of Engineer's Representative
16)	Limitation of Engineer's Representative's power
17)	Engineer's over-riding power
18)	Replacement of the Engineer
19)	Determinations
C.	THE CONTRACTOR
20)	Performance Guarantee / Security Deposit
21)	Contractor's personnel and Contractor's representative

22)	Assignment and sub-contracting
23)	Access to site
24)	Transportation of materials
25)	Contractor's equipment
26)	Supply of water and Electricity
27)	Use of ground and land / covered space for Contractor's establishment
28)	Existing services
29)	Contractor to prepare working / progress drawings
30)	Contractor's price is inclusive of all costs
31)	Contractor is responsible for all construction process, except for correctness of design and specification formulated by the Engineer
32)	Contractor to submit his programme of work
33)	Contractor to supervise the works
34)	Contractor is responsible for line, level, setting out, etc.
35)	Contractor is responsible to protect the work
36)	Contractor is responsible for all damages to other structures / persons caused by him in executing the work
37)	Fossils, Treasure troves, etc. are Trustees' property
38)	Contractor to indemnify the Trustees against all claims for loss, damage, etc.
39)	Dismantled materials Trustees' property
40)	Contractor's quoted rates / price must be all inclusive
41)	Notice to Contractor
42)	Contractor not to publish photograph or particulars of work
43)	Contractor to provide facilities to outsiders
44)	Work to cause minimum possible hindrance to traffic movement
D.	STAFF AND LABOUR
45)	Engagement of staff and labour
46)	Labour Laws

47)	Health and safety
48)	Labour licence
49)	Employees' Provident Fund & Employees' State Insurance
E.	PLANT, MATERIALS AND WORKMANSHIP
50)	Materials to be supplied by the Employer
51)	Contractor's arrangement for execution of the work
52)	Inspection and testing
53)	Contractor to replace materials/work not acceptable to the Engineer or his Representative
54)	Removal of materials on completion
55)	Workmanship and secrecy
F.	COMMENCEMENT, EXECUTION & COMPLETION OF WORK, HANDING OVER AND TAKING OVER
56)	Preliminary time to commence work and maintenance of steady rate of progress
57)	Contractor's site office
58)	Contractor to observe Trustees' working hours
59)	Contractor to supply all materials as per requirement of the Engineer or his Representative
60)	Materials and works
61)	Contractor to submit samples for approval
62)	Contractor to seek approval of Engineer or his Representative before covering up any portion of work
63)	Contractor to suspend work on order from Engineer or his Representative
64)	Completion Certificate
65)	Completion period
66)	Taking over of the Contract job by SMP Kolkata
67)	Defect Liability Period (DLP)
68)	Defects after taking over
69)	Extension of completion period and liquidated damage
G.	CONTRAT PRICE , PAYMENT AND DEDUCTIONS

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

70)	Contract Price
71)	Terms of payment
72)	Extra expenses incurred by the Employer
73)	Recovery of deducted amount
74)	Variation and its valuation
H.	TERMINATION BY EMPLOYER
75)	Notice to correct
76)	Termination by Employer
77)	Valuation at date of termination
78)	Payment after termination
79)	Employer's entitlement to termination for convenience
80)	Corrupt or fraudulent practices
I.	SUSPENSION AND TERMINATION BY CONTRACTOR
81)	Contractor's entitlement to suspend work
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83)	Cessation of work and removal of Contractor's equipment
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J.	INSURANCE
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K.	FORCE MAJEURE
86)	Definition of Force Majeure
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92)	Amicable settlement
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94)	Failure to comply with Engineer's decisions
95)	Progress of work not to be interrupted

General Conditions of Contract (GCC)

A. GENERAL PROVISIONS

7.1 Definitions

In the conditions of contract ("these conditions"), which includes particular conditions and these general conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

7.1.1 The Contract:

- "Contract"** means and includes these **bidding documents** in entirety (**including** all Addenda and Corrigenda, if any), the **specification**, the **drawings**, the **PRICE SCHEDULE**, the **bid / offer**, the **Letter Of Acceptance**, the **Contract Agreement** (when Contract Agreement would be completed in all respect) and such further documents as may be expressly incorporated in the **Letter Of Acceptance** or **Contract Agreement** (when Contract Agreement would be completed in all respect).
- b) **"Contract Agreement"** means the executed Contract Agreement referred to in **ITB Clause No. 5.37 [Signing of Contract Agreement]**.
- c) **"Contract documents"** means the documents listed in the Contract Agreement, including any amendments thereto.
- d) **"Letter Of Acceptance (LOA)"** or **"Work order"** or **"Order letter"** means the formal acceptance of the bid (and placement of order with the successful bidder), issued by or on behalf of the Employer, including any adjustments or variation to the bid agreed between the Employer and the successful bidder and includes its enclosure(s), annexure(s), etc., if any.
- e) **"Specification"** means the specification of the work included in the contract and any modification thereof or addition thereto made under **GCC Clause No. 7.12 [Additions and alterations]** or submitted by the Contractor and approved by the Engineer, in writing.
- f) **"Drawings"** means **all drawings, calculations and technical information**, etc., provided by the Engineer to the Contractor under the contract and all **drawings, calculations, samples, patterns, models**, etc., including modification, if any, and other **technical information & manuals** of a like nature, submitted by the Contractor and approved by the Engineer.

- g) **“Tender” or “Bid”** means the proposal (priced offer), along with all supporting documents, submitted by the bidder to the Employer for consideration.
- h) **“Price Schedule”** means the priced schedule of items, forming part of the bid.
- i) **“Tenderer” or “Bidder”** means the individual firm, who submits the bid, duly filled up and signed, along with all the required documents and payment instruments, in strict compliance of the conditions / requirements stipulated in these bidding documents.
- j) **“Contract data”** means the pages completed by the Employer entitled **CONTRACT DATA**.

7.1.2 Parties and persons :

- a) **“Party”** means the **Employer** or the **Contractor**, as the context requires.
- b) **“Employer” or “Board” or “Trustees” or “Kolkata Port Trust” or “SMP Kolkata”** means the Board of Trustees for the Port of Kolkata (Calcutta), a body corporate under **Section 3** of the **Major Port Trusts Act, 1963** (as amended from time to time), including their successors, representatives and assigns.
- c) **“Contractor” or “Successful bidder” or “Successful tenderer”** means the person or persons, firm or company, whose bid / offer has been accepted by the Employer and is named as such in the Contract Agreement or his representative(s), who is/are duly authorised to deal the contract.
- d) **“Contractor’s representative”** means the person(s) named by the Contractor in the contract or appointed from time to time by the Contractor, under **GCC Clause No. 7.21 [Contractor’s personnel and Contractor’s representative]**, who acts on behalf of the Contractor.
- e) **“Sub-contractor”** shall mean a person or persons, firm or company to whom a part of the work has been sub-contracted by the Contractor, with prior consent of the Employer.
- f) **“Contractor’s personnel”** means the Contractor’s representative and all personnel whom the Contractor utilises on site, who may include staff, labour and other employees of the Contractor and of each Sub-contractor, and any other personnel assisting the Contractor in the execution of the work.
- g) **“Engineer”** means the person appointed by the Employer to act as the Engineer for the purposes of the contract and named in the **Contract data**, or other person appointed from time to time by the Employer and notified to the Contractor under **GCC Clause No. 7.18 [Replacement of the Engineer]**.
- h) **“Engineer’s Representative”** means any sub-ordinate Engineer or assistant to the Engineer or any other official appointed from time to time by the Engineer to perform the duties set forth in **GCC Clause**

Nos. 7.13 to 7.15 hereof.

- i) **“Engineer-in-charge”** means employee of SMP Kolkata, authorised by the Engineer to look after the physical execution of the contract, at site level.
- j) **“Haldia Dock Complex”** or **“HDC”** means a Dock Complex situated at Haldia, under **Kolkata Port Trust**.
- k) **“Chairman”** means the Chairman of the Board of Trustees for the Port of Kolkata (Kolkata Port Trust) and includes the person appointed to act in his place under Sections 14 and 14A of the Major Port Trusts Act, 1963.
- l) **“Deputy Chairman”** means the Deputy Chairman, Haldia Dock Complex and includes the person appointed to act in his place.
- m) **“General Manager (Engineering)”** means the Officer appointed to take charge of Plant & Equipment Division, Infrastructure & Civic Facilities Division and Materials Management Division of HDC, under the supervision of the Deputy Chairman, HDC.
- n) **“Senior Deputy Manager (P&E)”** means the Officer of Plant & Equipment Division of HDC, reporting to the General Manager (Engineering).

7.1.3 Dates and periods:

“Completion period” means the time of completion/period of execution notified under 7.65 [Completion period].

“Month”, for the purpose of this contract, shall mean the period starting from the date of commencement in any month to the previous date of the following month, as per English Calendar.

“Week”, for the purpose of this contract, shall mean any period of 7 (seven) consecutive English Calendar Days.

“Day”, for the purpose of this contract, means English Calendar Day.

7.1.4 Money and payments:

“Contract price” or **“Contract value”** means the sum named in the **“Letter of Acceptance (LOA)”** [excluding GST] of the bid /offer of the Contractor, subject to such additions thereto and deductions therefrom, as may be made by the Engineer, under the provisions contained in this bidding document.

“Cost” means all expenditure reasonably incurred (or to be incurred), by the Contractor, whether on or off the site, including overhead and similar charges, but does not include profit.

“Foreign Currency” means the currency other than Indian Currency.

7.1.5 Work:

“Work” means the work to be executed in accordance with the contract and includes authorised **“Extra work”**, **“Excess work”** and **“Temporary work”**.

“Temporary work” means all temporary work of every kind required in or about the execution, completion or maintenance of the work 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.

“Excess work” means the required quantities of work, in excess of the provision made in the contract, against any item of the “Price Schedule”.

“Extra work” means those work, required by the Engineer for completion of the contract, which were not specifically and separately included in the schedule of items of the work (i.e. “Price Schedule”) of the bidding document.

“Related Services” means the services incidental to the supply of goods / contract job, such as insurance, installation, training, initial maintenance and other obligations of the Contractor, under the contract.

7.1.6 Other definitions

“Constructional plant” means all appliances or things, of whatsoever nature, required in or about the execution, completion or maintenance of the work or temporary work 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 work.

“Site” means the land and other places, on, under, in or through which the contract is to be executed or carried out and any other lands or places provided by the Employer for the purpose of the contract.

“Excepted Risks” means 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).

“Approved / approval” means approval in writing.

“Test on Completion” means such tests, prescribed by the applicable Design Standard, codes and described in the bidding document, to be performed by the Contractor before the equipment / items / installations are supplied, delivered and taken over by the Employer.

“Defect Liability Period (DLP)” means the period defined in the GCC Clause No. 7.67.

“Force Majeure” is defined in GCC Clause No. 7.86 [Definition of Force Majeure].

7.2 Contract documents

- 7.2.1 The several documents forming the contract are to be taken as mutually explanatory of one another and should anything appear in one, which is not described in the other, no advantage shall be taken of any such omission.
- 7.2.2 In case, any discrepancies or inconsistencies however appear or should any misunderstandings arise as to the meaning and of the specifications or drawings or as to the dimensions or the quality of the materials or the due and proper execution of the work or as to the measurement or quality and valuation of the work executed under this contract or as extra thereupon, the same shall be explained by the Engineer or his authorised representative.
- 7.2.3 The explanation of Engineer or his authorised representative shall be final and binding upon the Contractor and the Contractor shall execute the work according to such explanations, and without extra charge or deductions and do all such work and things as may be necessary for the proper execution of the contract as implied by the specification and drawings, even though such work and things are not specifically shown and described therein.

7.3 Interpretations

- 7.3.1 In the contract, except where the context requires otherwise:

words indicating one gender include all genders;

words indicating the singular also include the plural and words indicating the plural also include the singular;

provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;

“**written**” or “**in writing**” means hand-written (manuscript), type-written, printed or Electronically made, and resulting in a permanent record, under or over signature and seal, as the case may be;

and

the word “tender” is synonymous with “bid”, and “tenderer” with “bidder” and the words “tender documents” with “bidding documents”.

7.4 All Drawings are Trustees’ property

- 7.4.1 The Drawings, referred to in the Special Conditions of Contract / Technical Specification / Price Schedule, if and as applicable, shall be furnished by the Engineer to the Contractor, 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.

7.5 Language

- 7.5.1 The contract as well as all correspondence and documents relating to the contract, exchanged between the Contractor and the Employer/Engineer, shall be written in **English Language only**. If any documents/manuals/printed literature/drawings is submitted by the Contractor in other language(s), the same should be accompanied by an accurate translation of the relevant pages in the English language. In that case, for the purposes of interpretation of the

contract, such translation shall govern.

- 7.5.2 The Contractor shall have to bear all costs of translation to the English Language and all risk of the accuracy of such translation, for documents provided by the Contractor.

7.6 Notices

- 7.6.1 Any notice, given by one party to the other, pursuant to the contract, shall be in writing, to the address specified in the **Contract data**. The term “in writing” means communicated in written form, with proof of receipt.
- 7.6.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

7.7 Governing Law

- 7.7.1 The contract shall be governed by and interpreted in accordance with the relevant Indian Acts [considering latest amendment thereof], as applicable, within the jurisdiction of the Honourable High Court of Kolkata [Calcutta High Court] , India, including the following Acts:

- i) The Indian Contract Act, 1872.
- ii) The Major Port Trust Act, 1963.
- iii) The Workmen’s Compensation Act, 1923.
- iv) The Minimum Wages Act, 1948.
- v) The Payment of Wages Act, 1936.
- vi) The Payment of Bonus Act, 1965.
- vii) The Payment of Gratuity Act, 1972.
- viii) The Equal Remuneration Act, 1976.
- ix) The Employees Provident Fund Act, 1952.
- x) The Employees State Insurance Act, 1948 & The Employees State Insurance (Amendment) Act, 1989.
- xi) The Contract Labour (Regulation & Abolition) Act, 1970; Rules 1971.
- xii) Child Labour (Prohibition & Regulation) Act, 1986.
- xiii) The Maternity Benefits Act, 1961.
- xiv) Interstate Migrant Workmen (Regulation of Employment & Conditions of Service) Act, 1979.
- xv) The Dock Workers (Regulation of Employment) Act, 1948.
- xvi) The Dock Workers (Safety, Health & Welfare) Act, 1986.
- xvii) The Indian Arbitration and Conciliation Act, 1996 [considering its latest amendment in 2015].

- 7.7.2 Unless otherwise specified, all the laws / rules / acts, etc., mentioned in different clauses of this bidding document, should be considered as laws / rules / acts, etc. applicable in India.

- 7.7.3 The Contractor shall indemnify SMP Kolkata for any proceeding taken or commenced by any authority against the Employer for any contravention of any of such laws, bye laws, rules, regulations, orders, etc., by the Contractor or their personnel / workmen / agent / supplier, etc. If, as a result of the Contractor's failure, negligence, omission, default or non-observance of any provisions of any law, bye law, rule, regulation, order, etc., the Employer is called upon by any authority to pay or reimburse or is required to pay or reimburse any amount, the Employer shall be entitled to deduct the same from any amount due or that may become due to the Contractor under this contract or any other contract or by any other means or may otherwise recover from the Contractor any sum which SMP Kolkata is required or called upon to pay or reimburse on behalf of the Contractor.
- 7.7.4 The Contractor shall indemnify SMP Kolkata for any proceeding taken or commenced by any authority against the Employer for any contravention of any of such laws, bye laws, rules, regulations, orders, etc., by the Contractor or their personnel/workmen/agent/supplier, etc. If, as a result of the Contractor's failure, negligence, omission, default or non-observance of any provisions of any law, bye law, rule, regulation, order, etc., the Employer is called upon by any authority to pay or reimburse or is required to pay or reimburse any amount, the Employer shall be entitled to deduct the same from any amount due or that may become due to the Contractor under this contract or any other contract or by any other means or may otherwise recover from the Contractor any sum which SMP Kolkata is required or called upon to pay or reimburse on behalf of the Contractor.

7.8 Patent Rights

- 7.8.1 The Contractor shall fully indemnify SMP Kolkata against any action, claim or demand, costs or expenses arising from or incurred by reason of any infringement or alleged infringements of letters, patents, design, trademark or name, copyright or other protected rights in respect of any machine, plant, work, materials or things, system or methods of using, fixing working or arrangement used for fixed or supplied by the Contractor in India, or elsewhere.
- 7.8.2 All payments, or otherwise shall be deemed to be included by the Contractor in the prices named in the bid and shall be paid by them to whom they may be payable.
- 7.8.3 In the event of any claim being made or action brought against SMP Kolkata in respect of any such matter as aforesaid, the Contractor shall be immediately notified thereof and they shall with the assistance, if they so require, of SMP Kolkata but at the sole expense of the Contractor conduct all negotiations for the settlement of the same or any litigation that may arise there from, provided that the conduct of such negotiations or litigations shall be conditional upon the Contractor giving to SMP Kolkata such security, as shall from time to time, be reasonably required by SMP Kolkata to recover the ascertained or agreed amount, as the case may be, of any compensation, damages, expenses and cost, which might be payable by the Trustees in respect of or as a result of any such negotiation or litigation.

7.9 Stamp duty & other expenses

- 7.9.1 All the costs, charges and expenses to be incurred in connection with **Contract Agreement, Indemnity Bond, Bank Guarantees, Integrity Pact,**

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

etc., including stamp duty, shall be borne by the Contractor.

7.10 Indemnity

- 7.10.1 Notwithstanding that all reasonable and proper precautions may have been taken by the Contractor, at all times during the progress of the work, the Contractor shall, nevertheless, be wholly responsible for all damages, whether to the works themselves or to any other property of SMP Kolkata or to the lives, persons, property of others during the progress of the work.
- 7.10.2 In case any damage occurs to the existing structure due to the Contractor's operation, the same shall be made good by the Contractor, at their own risk and cost. The areas, which are likely to be unsafe for use, shall be barricaded and all necessary precautionary measures, like displaying notices, shall be taken by the Contractor, during the contract period.
- 7.10.3 In case any material, spare parts, components, sub-assemblies, accessories, etc., related to the work (under the scope of the Contractor), is required to be taken out of the Dock premises by the Contractor, for some specialised servicing, repairs, overhauling, etc. or for any other reason whatsoever, the Contractor shall have to obtain permission from the Employer. For this the Contractor shall have to submit an "**Indemnity Bond**" [in the form furnished in **Section-XI**].

7.11 Employer's lien

- 7.11.1 All constructional plant, temporary work and materials, when brought to the site by the Contractor, shall be deemed to be the property of the Employer, 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.
- 7.11.2 The Employer shall have a lien on and over all or any money that may become due and payable to the Contractor under this contract or any other contract or from any amount lying with them or under their control and in respect of any debt or sum that may become due and payable by the Employer to the Contractor, either alone or jointly with another or other and either under this contract or under any other contracts or transaction of any nature whatsoever between the Employer and the Contractor.

7.12 Additions and alterations

- 7.12.1 SMP Kolkata shall have power and authority, from time to time and at all times, to make amendments or additions or alterations or changes in the **Technical Specification** and give such further instructions and directions, as may appear necessary and proper to SMP Kolkata for the guidance of the Contractor and good & efficient execution of the work.
- 7.12.2 The Contractor shall receive, obey and be bound by the same, according to the true intent and meaning thereof, as if the same had been mentioned or referred to in the **Technical Specification**.
- 7.12.3 SMP Kolkata may also vary or alter the levels or positions of any of the work contemplated by approved specification or may order any of the work contemplated thereby to be omitted, with or without substitution of any other works in lieu thereof, or may order any work or any portion of works

executed or partially executed, to be removed, changed or altered, if required.

In this connection, SMP Kolkata may increase or decrease or split the quantity of work included in the contract or execute additional work of any kind necessary for good & efficient execution of the work.

- 7.12.4 The Engineer shall have the power to order for the above amendments (additions/alterations/changes, etc.) and any difference in the cost occasioned by any such diminution or alteration so ordered and directed shall be added to or deducted from the amount accepted under the contract based on the rate(s) available in the contract. Where the rate(s) is/are not available in the contract, such difference in the cost shall be determined by the Engineer, taking into account the market rate and labour cost at site for similar work, backed up by rate analysis, (to be submitted by the Contractor and agreed upon between the Contractor and SMP Kolkata).

In the event of disagreement, SMP Kolkata shall fix such rates or prices as shall, in their opinion, be reasonable and proper having regard to the circumstances.

B. THE ENGINEER

7.13 Instructions of the Engineer or Engineer's Representative

- 7.13.1 The Contractor shall execute, complete 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. However, the Engineer shall exercise his discretion impartially, within the terms of the contract and have regard to all the circumstances.

The Contractor shall take instructions from the Engineer and subject to limitation indicated in **GCC Clause No. 7.16.1** hereof, from the Engineer's Representative.

7.14 Engineer's power and authority

- 7.14.1 The Engineer shall have full power and authority:

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.

to alter or modify the specification of any material and workmanship and to inspect the work at any time.

to order for any variation, alteration and modification of the work and for extra works.

to issue certificates as per contract.

to settle the claims & disputes of the Contractor.

to grant extension of completion time.

7.15 Power of Engineer's Representative

- 7.15.1 The Engineer's Representative shall:

watch and supervise the work.

test and examine any material to be used or workmanship employed in connection with the work.

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.

take measurements of work done by the Contractor for the purpose of payment or otherwise.

order demolition of defectively done work for its reconstruction all by the Contractor at his own expense

have powers to issue alteration order not implying modification of design and extension of completion time of the work.

And

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.

7.16 Limitation of Engineer's Representative's power

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

- a) to order any work involving delay or any extra payment by the Trustees,
- b) to make variation of or in the work,

And

- c) to relieve the Contractor of any of his duties or obligations under the contract.

7.17 Engineer's over-riding power

7.17.1 Provided also as follows:

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 sustained by them.

If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Representative, they shall be entitled to refer the matter to the Engineer, who shall thereupon confirm, reverse or vary such decision which will be final, conclusive and binding on the parties.

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.

7.18 **Replacement of the Engineer**

- 7.18.1 If the Employer intends to replace the Engineer, the Employer shall give notice to the Contractor in this respect.

7.19 **Determinations**

- 7.19.1 Whenever these conditions provide that the Engineer shall proceed, in accordance with this clause, to agree or determine any matter, the Engineer shall consult with each party, in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination, in accordance with the contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both parties of each agreement or determination, with supporting particulars **within 28 (twenty-eight) days** from the receipt of the corresponding claim or request, except when otherwise specified. Each party shall give effect to each agreement or determination, unless and until revised under **GCC Clause Nos. 7.94 to 7.98 [Claims, Disputes and Arbitration]**.

C. THE CONTRACTOR

7.20 **Performance Guarantee / Security Deposit**

- 7.20.1 As specified in the **SCC**, the Contractor shall have to provide **Performance Guarantee / Security Deposit** towards guaranteeing the performance of the Contractor in execution of the contract.

- 7.20.2 The **Performance Bank Guarantee(s)** shall be denominated in the currency(ies) of payment in the contract, and shall be in the form furnished in **Section-XI**.

- 7.20.3 The original Bank Guarantee should be sent by the issuing Branch of the Bank, directly to the Employer, under Registered Post (A.D), at the following address:

General Manager (Finance),
Haldia Dock Complex (HDC),
Jawahar Tower Complex,
P.O: Haldia Township,
Dist.: Purba Medinipur,
PIN – 721 607,
West Bengal, India.

A photocopy of the Bank Guarantee should also be sent to the Engineer, by the Contractor, for record.

The General Manager (Finance), HDC may require Bank's confirmation for having issued the Guarantee. In that case, the issuing Branch of the Bank should send a confirmation letter, directly to the Employer, under Registered Post (A.D), at the above address.

- 7.20.4 Failure of the Contractor to submit the required Performance Bank Guarantee, as mentioned in **GCC Clause No. 7.20.1** and in the manner stated in the **SCC**, shall constitute sufficient grounds for termination of the contract and forfeiting the Earnest Money Deposit.

- 7.20.5 The proceeds of **Performance Guarantee / Security Deposit** shall be payable to the Employer, as compensation, for any loss resulting from the Contractor's failure to complete its obligations under the contract.
- 7.20.6 **Performance Guarantee/Security Deposit** shall be liable to be forfeited, at the option of the Employer, if the Contractor fails to carry out the work or to perform / observe any of the conditions of the contract.
- 7.20.7 The Employer shall be at liberty to deduct/recover any of their dues from **Security Deposit/Performance Guarantee**.
In that case, if **Security Deposit / Performance Guarantee** is reduced by reason of any such deduction or encashment, the Contractor shall have to, **within 15 (fifteen) days thereafter**, make good the amount so reduced.
- 7.20.8 The cost of obtaining **Performance Bank Guarantee** or any other Bank Guarantee and / or revalidation thereof, whenever required, has to be borne by the Contractor and it shall be their 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 Employer shall be at liberty to raise claim / demand under Performance Guarantee and/or enforce the same unilaterally.
No interest/charge, of whatsoever nature, shall be paid by the Employer on the amount of **Security Deposit / Performance Guarantee** held by the Employer, at any stage.
- 7.20.9 On completion of execution of the work, the Contractor shall maintain the same during the "**Defect Liability Period**" (i.e. **10 years comprehensive operation & maintenance period**), as specified in **GCC Clause No. 7.67**, from the date mentioned in the "**Certificate of Completion of Work**" [as per the form furnished in **Section-XI**]. Any defect / fault, which may appear in the work during the 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 7 (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.
- 7.20.10 The contract shall not be considered completed and the work shall not be treated as finally accepted by the Trustees, until a "**Certificate of Final Completion**" [as per the form furnished in **Section-XI**] shall have been signed and issued by the Engineer, after all obligations under the contract, including that in the Defect Liability Period (DLP), 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.
- 7.20.11 Refund of **Performance Guarantee / Security Deposit** would be guided by the procedure detailed in the **SCC**.

7.21 Contractor's personnel and Contractor's representative

- 7.21.1 The Contractor's personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the site of work, including the Contractor's representative, if applicable, who:

persists in any misconduct or lack of care,

carries out duties incompetently or negligently,

fails to conform with any provisions of the contract, or

persists in any conduct, which is prejudicial to safety, health or protection of the environment.

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

- 7.21.2 The Contractor shall have to communicate the names of their officials/representatives, authorized by them through **Power of Attorney** (specimen signature of such authorized representative should be attested), to make all correspondences and sign all documents/papers in relation to this contract.

Written orders or instructions, which the Employer may issue to such authorized officials/ representatives of the Contractor, shall be deemed to have been given to the Contractor.

- 7.21.3 In case any of such authorised persons fails to act as Contractor's representative, the Contractor shall similarly communicate the name and particulars of another suitable person for such authorization.

The Contractor shall have to notify the Engineer, immediately after revoking the appointment of the Contractor's representative and appointment of a replacement.

- 7.21.4 If any of the Contractor's representatives/officials is required to be temporarily replaced during the period of contract, the name of the person temporarily authorised [by any one of the authorised officials/representatives, authorized earlier through **Power of Attorney**], shall have to be notified. Specimen signature of such temporarily authorised representative(s) should be attested [by the said authorised official/representative].

7.22 Assignment and sub-contracting

- 7.22.1 The Contractor shall not, directly or indirectly, transfer, assign, sublet or sub-contract the whole of the work.

Unless otherwise stated in the contract, the Contractor shall not, directly or indirectly, transfer, assign, sublet or sub-contract any part of the work without prior consent of the Engineer. Any such consent shall not relieve the Contractor from any of their liabilities or obligations under the contract and they shall be responsible for :

- a) the acts, defaults and neglect of any Sub-contractor, their agents, servants or workmen as fully as if these were the acts, defaults or neglects of the Contractor, their agents, servants or workmen,
- b) their full and entire responsibility of the contract and active

superintendence of the work by them despite being sublet.

Provided that the Contractor shall not be required to obtain such permission for:

- i) the provision of labour engaged on piece-work basis/daily rate basis,
 - ii) the purchase of materials/services which are in accordance with the standards specified in the contract,
- Or
- iii) the sub-contracting of any part of the work, for which the Sub-contractor is named in the contract.

The Contractor shall be responsible for observance, by all Sub-contractors, of labour laws applicable in India (for the portion of work that would be executed in India) and all other provisions of the contract.

- 7.22.2 No **participating bidder** [in connection with the instant tender] will be allowed to act as a **Sub-contractor** of the successful bidder (Contractor).
- 7.22.3 In the event of the Contractor contravening aforesaid condition [**GCC Clause No. 7.22.2**], the Employer shall be entitled to terminate the contract forthwith and award a fresh contract to some other parties at **risk and cost of the Contractor**, who shall be liable for any loss or damage, which SMP Kolkata may sustain in consequence to arising out of such replacement of the Contractor.
- 7.22.4 The Contractor shall not assign their right and interest in these presents nor assume a fresh partner or partners, dissolve the partnership existing between them in reference to this contract, without the prior written permission of the Employer.

7.23 Access to site

- 7.23.1 The Contractor shall have to abide by the **rules and regulations of Kolkata Port Trust (SMP, Kolkata)** in respect of entry / exit and movement in the dock premises.
- 7.23.2 Necessary **Gate Pass / Dock Entry Permit**, for entering into the Dock area, will be issued to the personnel of the Contractor [including that of approved Sub-contractor(s)] directly connected with the work, **on chargeable basis** [as per the extant “**Scale of Rates**” of SMP, Kolkata, available at <http://www.kolkataporttrust.gov.in/> of **Kolkata Port Trust**], on receipt of a formal written request.

However, for issuing such Gate Pass, the following would be required:

- i) **For Indian nationals:** A photocopy of the Voter’s Identity Card/any other Photo Identity Card.
- ii) **For foreign nationals (excluding from Nepal and Bhutan):** **Permission in the form of “No objection” for entering Haldia Dock**, from the office of the **Superintendent of Police, Purba Medinipur, West Bengal, India**, which acts as the **District Registration Office for foreigners**.

Dock Entry Permits shall not be issued to the mentioned foreign nationals without the aforesaid permission. The aforesaid “No

objection”, along with photocopies of Passport and Visa of the foreign national, has to be submitted to the Administration Division of HDC, SMP, Kolkata, with an application for obtaining Dock Entry Permit(s).

- 7.23.3 The Contractor will be fully responsible for any injury (whether fatal or otherwise) to their personnel [including that of approved Sub-contractor(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.
- 7.23.4 The Contractor will be liable to indemnify the Employer against any loss or damage to the property of the Employer or neighbouring property, which may be caused due to any act of the Contractor or their personnel [including that of approved Sub-contractor(s)].
- 7.23.5 **No photograph within the Dock Area** shall be taken by the Contractor, without prior permission of the Engineer.

7.24 **Transportation of materials**

- 7.24.1 All materials, spare parts, tools, tackles, service equipment, including consumables, required under this contract, will have to be packed, securely placed and protected by the Contractor during transportation. The Contractor will be held responsible for the inefficient packing, storing and protection of the materials.

7.25 **Contractor’s equipment**

- 7.25.1 The Contractor shall be responsible for all the equipment of the Contractor. When brought on to the site, the Contractor’s equipment shall be deemed to be exclusively intended for the execution of the work. The Contractor shall not remove from the site any major items or Contractor’s equipment without the consent of the Engineer. However, consent shall not be required for vehicle(s) transporting goods or Contractor’s personnel off site.

7.26 **Supply of water and Electricity**

7.26.1 **Supply of water:**

Drinking water supply at the **Contractor’s site office, store, workshop, assembly/erection yard, 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.

However, water supply, if required for the **actual work (including erection, commissioning & cleaning work) at the site only** and / or **maintenance, repair & cleaning work** (required to be carried out at site during the “Defect Liability Period”) will be provided free of cost. The Contractor shall have to make **all arrangements for laying of pipelines from the source(s) identified by SMP, Kolkata, at their cost**.

7.26.2 **Supply of Electricity:**

Supply of Electricity at the **Contractor's site office, store, workshop, assembly / erection yard, 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.

However, Power supply, required for the **actual work (including erection and commissioning) at the site only** and/or **maintenance and repair** (required to be carried out at site during the "Defect Liability Period") will be provided free of cost. The Contractor shall have to make all arrangements for **laying of Cables from the source(s) identified by SMP, Kolkata, at their cost**.

7.27 **Use of ground and land/covered space for Contractor's establishment**

- 7.27.1 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. For this, a token lump sum licence fee of **₹10.00 per month or part thereof** will be charged during pendency of the contract and extension thereof, if any.
- 7.27.2 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 same license fee (₹10.00 per month or part thereof) 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 Rate" will be applicable for the period beyond that.
- 7.27.3 The Contractor shall be allowed to erect any temporary structures on this land [as stated in **GCC Clause No. 7.27.1**] 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.
- 7.27.4 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** [as per **GCC Clause Nos. 7.26.1**] and **Electricity consumption charges** [as per **GCC Clause No. 7.26.2**] (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.

7.28 Existing services

- 7.28.1 Drains, Pipes, Cables, overhead wires and similar services, whether above or below the ground, which may be encountered in the course of the work, shall be saved and kept harmless from injury and/or loss or damages by the Contractor, at their own costs and expenses, so that they continue to be in full and uninterrupted use to the Employer.
- 7.28.2 The Contractor shall not store any materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. The Contractor shall, at their own costs and expenses and without any delay, repair and make good, to the satisfaction of the Employer, any injury and/or loss or damage caused by the Contractor to the same.

7.29 Contractor to prepare working/ progress drawings

- 7.29.1 The Contractor shall provide 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.

7.30 Contractor's price is inclusive of all costs

- 7.30.1 Unless otherwise specified, the Contractor shall be deemed to have included in his bid / 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.

7.31 Contractor is responsible for all construction process, except for correctness of design and specification formulated by the Engineer

- 7.31.1 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.

7.32 Contractor to submit his programme of work

- 7.32.1 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,
- I 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.

- 7.32.2 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.

7.33 Contractor to supervise the works

- 7.33.1 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 Defect Liability Period (DLP). 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 **GCC Clause No. 7.16** hereof. The Contractor shall inform the Engineer or his Representative in writing about such representative/agent of him at site.

7.34 Contractor is responsible for line, level, setting out, etc.

- 7.34.1 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.

7.35 Contractor is responsible to protect the work

- 7.35.1 From the commencement of the works till issue of the “Certificate of Completion of Work”, vide **GCC Clause No. 9.65** 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 be recoverable from the Contractor, in whatever manner 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 Defect Liability 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 during the Defect Liability Period.

7.36 Contractor is responsible for all damages to other structures / persons caused by him in executing the work

- 7.36.1 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.

7.37 Fossils, Treasure troves, etc. are Trustees' property

7.37.1 The Contractor shall immediately inform the Engineer's Representative 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.

7.38 Contractor to indemnify the Trustees against all claims for loss, damage, etc.

7.38.1 The Contractor shall be deemed to have indemnified the Trustees against all claims, demands, actions and proceedings and all costs arising there from on account of:

- (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 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.

7.39 Dismantled materials Trustees' property

7.39.1 Debris and materials, if obtained by demolishing any property, building or structure, in terms of the contract, shall remain the property of the Trustees.

7.40 Contractor's quoted rates / price must be all inclusive

7.40.1 The Contractor's quoted rates shall be deemed to have been inclusive of the following:

- (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 labourers 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 Calcutta Municipality Corporation or other local authority or the Engineer or his Representative, for preventing
 - (i) spread of any infectious disease like smallpox, cholera, plague, malaria or dengue, 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 (sixteen) years.

7.41 Notice to Contractor

- 7.41.1 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 bid or to the Contractor's Site Office or, in case of Trustee's enlisted Contractor, to the address as appearing in the Trustee's Register 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.

7.42 Contractor not to publish photograph or particulars of work

- 7.42.1 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.

7.43 Contractor to provide facilities to outsiders

- 7.43.1 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.

7.44 **Work to cause minimum possible hindrance to traffic movement**

- 7.44.1 The work has to be carried out by the Contractor causing minimum hindrance for any maritime traffic or surface traffic.

D. STAFF AND LABOUR

7.45 **Engagement of staff and labour**

- 7.45.1 The labour, as mentioned in the respective clauses, shall include all labourers of the approved sub-contractor(s), with respect to this contract.
- 7.45.2 The Contractor shall have to make their own arrangements for the engagement of all staff and labour, for doing the work at site or in respect of or in connection with the execution of work, as also for the transport, housing, feeding. They shall have to ensure making payment to the above staff and labours, to be engaged by them (including the labours, to be engaged by the approved Sub-contractor, if any).
- 7.45.3 SMP, Kolkata's store shall mean any store of Haldia Dock Complex, situated at Haldia.
- 7.45.4 It is expressly made clear that both before and after the completion of the work or termination of the contract, **SMP, Kolkata shall have no liability, whatsoever, for the personnel to be engaged by the Contractor [or by the approved Sub-contractor(s)] for the work under this contract.**

7.46 **Labour Laws**

- 7.46.1 The Contractor shall, at all times, during the pendency of the contract [including the period of making good/rectification of deficiencies/defects, if any], have to comply fully with all existing **Acts, Regulations and Byelaws**, including all **statutory amendments** and re-enactment of **State or Central Government** and other **Local Authorities** and any other enactments and acts that may be passed in future either by the **State** or the **Central Government** or **Local Authority**, including **Workmen's Compensation Act, Labour Laws and Equal Remuneration Act, Factories Act, Minimum Wages Act, Contract Labour (Regulation & Abolition) Act**, etc., if applicable and/or as applicable.
- 7.46.2 If, as a result of the Contractor's failure, negligence, omission, default or non-observance of any provisions of any laws, the Employer is called upon by any authority to pay or reimburse or required to pay or reimburse any amount, the Employer shall be entitled to deduct the same from any moneys due or that become due to the Contractor under this contract or any other contract or otherwise recover from the Contractor any sums, which the Employer is required or called upon to pay or reimburse on behalf of the Contractor.
- All **registration and statutory inspection fees**, in connection with labour engagement, with respect to this contract, shall have to be paid by the Contractor, if applicable and/or as applicable.
- 7.46.3 The Contractor shall have to, immediately after the occurrence of any accident, at or near the site or in connection with the execution of the work under the contract, report (over phone or otherwise) to the Engineer or his representative(s) and shall make every arrangement to render all possible assistance to the victim(s) of such accident.

The Contractor shall also have to report such accident to the Engineer, in writing (giving reference to the earlier communication made). Based on such report, necessary communication with the competent authority would be made whenever such a report is required by law.

7.46.4 For any accident occurred within the entire operational area covered under the contract, the Contractor shall have to arrange prompt investigation into the matter through recording of statement of the personnel witnessing the accident. Such “Accident Report”, containing the findings, along with the statements so recorded, shall have to be forwarded by the Contractor to the Engineer at the earliest.

7.46.5 The Contractor shall have to provide full medical treatment to their staff & labourers, in case of “**Accident on Duty**”, which will inter alia include their obligations under the **Workmen’s Compensation Act, 1923**, including all amendments thereof.

The Employer shall in no manner be liable to the Contractor or any person engaged/employed by them [including that of Sub-contractor] or any other person, for injuries or death caused as a result of accidents occurred, either within or outside the site of work, under the contract. The Contractor shall be responsible for such contingencies and will make good all claims for compensation, claim by their personnel/workmen or the families of the sufferer(s), as the case may be, or as per the decision of the appropriate authority/tribunal or other involved persons.

7.46.6 The Contractor shall have to indemnify SMP Kolkata, in the event of SMP Kolkata being held liable to pay compensation for injury to any Contractor’s servants or workmen [including that of Sub-contractor] under the **Workmen’s Compensation Act, 1923**, as amended from time to time.

7.46.7 Whenever the contract comes to an end with the efflux of time or otherwise or is terminated, the Contractor shall be required to fulfil all their obligations towards their workmen in terms of applicable labour laws and submit necessary documents towards such effect, to the Employer in support of the same. Any deposit, which may be lying with SMP Kolkata to their credit, will be liable to be applied for this purpose, if the Contractor fails to comply with the same. In case such documents are not furnished by the Contractor, the Employer will not release the **Performance Guarantee/ Security Deposit** and any other amount as may remain due to the Contractor

7.47 **Health and safety**

7.47.1 In the event of any outbreak of illness or an epidemic nature, the Contractor shall have to comply with and carry out such regulations, orders & requirements, as may be made by the Government, or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.

7.47.2 The Contractor shall have to ensure safety of all their working personnel to the fullest compliance of the provisions of **general safety rules/regulations**, including **Dock Workers’ (Safety, Health & Welfare) Regulations, 1986**.

The Contractor shall be solely responsible for consequences arising out of non-compliance or violation of safety rules/ regulations.

7.47.3 The Contractor [including approved Sub-contractor(s)] shall have to provide (at their own expenses) all required **Personal Protection Equipment (PPE)** [such as **Helmets, Nose Masks, Hand Gloves**, etc.] & **Safety Gears** for all

personnel and labourers engaged during the work and in case of their failing to do so, the Employer shall provide the same and recover the cost thereof from any amount due, or which may become due to the Contractor or from any amount lying with them or under their control.

7.48 **Labour licence**

- 7.48.1 Within 7 (seven) days from the date of issuance of the order, the Contractor shall have to apply for **labour licence** for the maximum number of workers proposed to be deployed for this work. Necessary certificate shall be issued by the Engineer against a request from the Contractor.

Photocopy of the application shall have to be furnished to the Engineer, immediately. However, payment will be released only on furnishing the copy of the Labour Licence to the Engineer. However, such license should be kept valid throughout the actual duration of contract.

7.49 **Employees' Provident Fund & Employees' State Insurance**

- 7.49.1 The Contractor should have their establishment (with respect to this contract) registered with the concerned authorities under the provision of **Employees' Provident Fund & Miscellaneous Provision Act, 1952** and **Employees' State Insurance Act, 1948**. The Contractor shall have to submit the proof of registration as mentioned above immediately after commencement of work.

- 7.49.2 As per the above mentioned Act, the Contractor is liable for remittance of monthly subscription contribution in respect of **Employees' Provident Fund (EPF)** and **Employees' State Insurance (ESI)** for the workers engaged by them, wherever applicable. The Contractor shall have to submit the authenticated copy of the challans with respect to subscription / contribution of **Employees' Provident Fund** and **Employees' State Insurance** (against their respective Code Numbers issued by the **Employees' Provident Fund** and **Employees' State Insurance Authorities**) by 7th day of every English Calendar Month (during the currency of the contract) along with the list of labourers for whom such deposits have been made.

Payment will be held up if the up-to-date **Employees' Provident Fund** and **Employees' State Insurance** remittance challan is not submitted in time.

- 7.49.3 In case, registration with the EPF and ESI Authorities is not applicable for the employees of the Contractor [or for the employees of the Sub-contractor(s)], documentary evidence to establish non-applicability to be submitted by the Contractor.
- 7.49.4 In case of sub-contracting any part of the work, above requirements should also be fulfilled by the approved Sub-contractor and necessary documents shall have to be submitted in time, as indicated above.

E. PLANT, MATERIALS AND WORKMANSHIP

7.50 **Materials to be supplied by the Employer**

- 7.50.1 Regarding 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' Store [store of Haldia Dock Complex, situated at Haldia], 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.

- 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.
- 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.
- 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 bid/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.
- 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 19.25 % extra over the higher one of the followings:
 - i) The issue rate of the materials at the Trustees' Stores, and
 - ii) The market price of the material on the date of issue, as would be determined by the Engineer.

7.51 Contractor's arrangement for execution of the work

- 7.51.1 The Contractor will have to arrange and provide all types of materials, etc. [in line with the Technical Specification] throughout the execution of the contract.
- 7.51.2 SMP Kolkata will not take any responsibility regarding **non-availability** of any such materials for which Contractor is responsible as per contract. The Contractor shall have to assess the requirement of such materials and keep sufficient stock.

- 7.51.3 The Contractor shall have to provide all equipment, including tools, tackles, lifting machineries, air compressor, scaffolding arrangement, different vehicular transport, etc., necessary to execute the work.
- 7.51.4 All tools & machineries to be used by the Contractor should be suitable for the particular requirement (i.e. capacity should be adequate) and the same should be checked for fitness before use. They should maintain the said equipment properly to ensure their efficient working.
- 7.51.5 The Contractor shall, at their own costs and expenses, have to provide all labour, plant, haulage, transportation of plant and equipment to be used for executing the contract, all materials, stores, etc. (except the equipment & materials to be provided by SMP, Kolkata, as per contract) required for efficiently carrying out the work to the satisfaction of the Employer.
- 7.51.6 The Contractor should use calibrated measuring & testing instruments 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.

7.52 Inspection and testing

- 7.52.1 The Engineer or his authorised Representative shall have, at all reasonable time, access to the Contractor's premises or work site or other premises [if a part of the work is being executed there or some **maintenance repair** work (during **Defect Liability Period**) is being done there] and shall have the power, at all reasonable time, to **inspect, examine and test the materials and workmanship**, as well as the **documents, equipment, tools, measuring & testing instruments**, as applicable, in connection with the instant contract (including **Defect Liability Period**).
- 7.52.2 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.
- 7.52.3 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.
- 7.52.4 If found necessary, SMP Kolkata reserves the rights to get the materials inspected from a **Government or Government recognized Laboratory/Test House**.
- 7.52.5 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.

- 7.52.6 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.
- 7.52.7 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].
- 7.52.8 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**”.
- 7.52.9 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.
- 7.52.10 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.
- 7.52.11 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 3rd 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**
- 7.52.12 **Tests on completion:**
On **completion of installation**, the contractor with give a **7 (seven) days’** notice to the Engineer, 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. The procedure specified in SCC shall be followed in this respect.
- 7.52.13 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.

7.53 Contractor to replace materials/work not acceptable to the Engineer or his Representative

- 7.53.1 The Engineer or his Representative shall have the power to inspect any material and work at any time and to order at any time
- a) 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,
 - b) for the substitution of proper and suitable materials, or
 - c) 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 (seven) days.

7.54 Removal of materials on completion

- 7.54.1 The Contractor shall, on completion of the contract or when directed by the Employer, shall have to remove all plant, equipment, tools, materials, temporary constructions, etc. and rubbish garbage, waste, which may have accumulated during the execution of the contract, other than those permanently used into the work, at Employer's site.

7.55 Workmanship and secrecy

- 7.55.1 The Contractor shall carry out the services in conformity with generally accepted norms and sound standards of Engineering. The Contractor shall be responsible for the technical soundness of the services rendered. In the event of any deficiency in those services, the Contractor shall promptly re-do the same, at no additional cost to the Employer.
- 7.55.2 The Contractor shall use all the documents, drawings and other data & information, of proprietary nature, received from the Employer, solely for the purpose of performing and carrying out the obligations on his part under the Agreement in the performance of the works for the project and maintain utmost secrecy, in this regard. The documents, drawings and other data & information, received from the Employer, shall not be used by the Contractor for any other purpose.

F. COMMENCEMENT, EXECUTION & COMPLETION OF WORK, HANDING OVER AND TAKING OVER

7.56 Preliminary time to commence work and maintenance of steady rate of progress

- 7.56.1 The Contractor shall commence the work within 7 (seven) days of the receipt of Engineer's letter informing acceptance of the Contractor's bid / 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 Representative, time being deemed the essence of the contract on the part of the Contractor.

7.57 Contractor's site office

- 7.57.1 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.

7.58 Contractor to observe Trustees' working hours

- 7.58.1 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.

7.59 Contractor to supply all materials as per requirement of the Engineer or his Representative

- 7.59.1 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

7.60 Materials and works

- 7.60.1 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.

7.61 Contractor to submit samples for approval

- 7.61.1 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.

7.62 Contractor to seek approval of Engineer or his Representative before covering up any portion of work

- 7.62.1 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.
- 7.62.2 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.

7.63 Contractor to suspend work on order from Engineer or his Representative

- 7.63.1 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:
- a) 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,
 - b) otherwise provided for in the contract, or
 - c) necessary by reason of some default on the part of the Contractor, or
 - d) necessary by reason of climatic conditions on the site, or
 - e) necessary for proper execution of the works or for the safety of the works or any part thereof.
- 7.63.2 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.
- 7.63.3 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.

7.64 Completion Certificate

- 7.64.1 When the whole of the work [as detailed in **GCC Clause No. 7.65 (Completion period)**] has been completed to the satisfaction of the Engineer, the Contractor shall, within 21 (twenty one) days of submission of his application to the Engineer, be entitled to receive from him a certificate for completion of work as per the form furnished in **Section – XI**.

7.65 Completion period

- 7.65.1 All the jobs, as per contract, are to be completed within the period stipulated in the SCC.

7.66 Taking over of the Contract job by SMP, Kolkata

- 7.66.1 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”.
- 7.66.2 However, the actual date of completion of the contract will be considered as per **GCC Clause No. 7.65 [Completion period]**.

7.67 Defect Liability Period (DLP)

- 7.67.1 “**Defect Liability Period**” shall mean the **Guarantee Period**, as specified in SCC.
- 7.67.2 During “**Defect Liability Period**” [as specified in SCC], the Contractor shall nominate 2 (Two) 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.
- 7.67.3 The Contractor shall be responsible for making good (including replacement of defective items, if required), with all possible speed, at their expense, any defect in or damage to any portion of the work, which may appear or occur after the Contract job has been taken over [as per GCC Clause No. 7.66 (Taking over of the Contract job by SMP Kolkata)] and before expiry of Defect Liability Period [as specified in SCC] and which arises either:
- a) from any defective materials, workmanship or design, or
 - b) from any act or omission of the Contractor done or omitted during the said period.

7.68 Defects after taking over

- 7.68.1 If any such defects shall appear or damage occur (as detailed in **7.67.3**), the Engineer shall forthwith inform the Contractor thereof, stating in writing the nature of defect or damage.
- The provision of this clause shall apply to all replacements or renewals carried out by the Contractor to remedy defects and damage as if the said replacements and renewals had been taken over on the date they were completed to the satisfaction of Engineer. After the taking over, if the Contract job 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, as specified in SCC.
- 7.68.2 If any such defect or damage be not remedied by the Contractor within a reasonable time, HDC, SMP, Kolkata may proceed to do the work at the Contractor’s risk and expense, but without prejudice to any other rights which HDC, SMP Kolkata may have against the Contractor in respect of such defects.
- 7.68.3 All inspection, adjustments, replacement or renewal carried out by the Contractor during the period referred in this clause shall be subject to the conditions of this contract, which shall be binding on the contractor in all respects during the **Defect Liability Period** and its extension, if any.

7.69 Extension of completion period and liquidated damage

7.69.1 Extension of completion period:

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 **Force Majeure** condition (as per **GCC Clause No. 7.86**) or other special circumstances, of any kind, beyond the control of the Contractor or any other reason not attributable to the Contractor [including hindrance at site of work, causes indicated as “**Excepted Risks**”, etc.] cause delay in completing the work, the Contractor shall apply to the Engineer, in writing, for suitable extension of completion period, within **7 (seven) 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**” (GCC Clause No. 7.69.2 hereof) on the Contractor and his decision shall be binding on the Contractor. If an extension of completion period is granted by the Engineer, “**Liquidated Damage**” (GCC Clause No. 7.69.2 hereof) 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.

7.69.2 **Liquidated Damage:**

If the Contractor fails to complete the work within the stipulated dates [as per **GCC Clause No. 7.65 (Completion period)**] 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, as per the following:

In case of handing over the Contract Job after the scheduled completion period, **Liquidated Damage @ ½% of the Contract Price [excluding GST]**, for every week or part thereof, beyond the scheduled date of completion, will be deducted from the Contractor’s bill. Provided always the amount of such compensation shall not exceed **10%** of the cost the Contract Price [excluding GST].

- 7.69.3 Without prejudice to any of their legal rights, the Trustees shall have the power to recover the said amount of compensation/damage, as per **GCC Clause No. 7.69.2** 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 **3 (three) days** notice, in writing, has been given to the Contractor by the Engineer or his Representative.

G. CONTRACT PRICE , PAYMENT AND DEDUCTIONS

7.70 Contract Price

- 7.70.1 Price charged by the Contractor for the related services performed under the contract shall not vary from the rates accepted by the Employer, based on the bid/offer of the successful bidder and stated in the “Letter Of Acceptance”, with the exception of any price adjustment, if provided for in the contract.
- 7.70.2 Changes **in statutory taxes & duties will be adjusted** time to time.
- 7.70.3 No claim whatsoever of the Contractor for their man & material resources remaining idle for any reason or for any other expenses incurred by them due to the flow of work not being continuous or for stoppage of work, will be entertained by the Employer.

7.71 Terms of payment

7.71.1 Payment of Goods & Services Tax (GST):

Amount of GST will be borne by HDC, SMP, Kolkata on production of

suitable document(s) by the Contractor.

7.71.2 Time of payment:

The Contractor shall have to submit **bills in triplicate** to the Engineer, in accordance with the stage-wise payments specified in **SCC**. In normal circumstances, payment of the bills, accompanied by **Inspection Certificates** & other relevant documents, duly recommended by the Engineer, will be passed within 30 (thirty) days from the date of receipt of such bills, if found in order.

7.71.3 Income Tax deduction:

Income Tax, if any, as per the relevant provision of the Income Tax Act, shall be **deducted at source** from amount payable to the Contractor.

7.71.4 No interest on account of delayed payments:

Any claim for interest will not be entertained by SMP Kolkata with respect to any delay on the part of SMP Kolkata for making payment, or for any dispute. The decision of the Engineer is final in such matters.

7.72 Extra expenses incurred by the Employer

7.72.1 Any extra expenses incurred in connection to the work by the Employer in the performance of the work owing to the neglect or omission on the part of the Contractor in any of the case mentioned in this contract shall be deducted from any sum due or which may thereafter become due to the Contractor or from any amount lying with them or under their control or they may be called upon to pay the amount of such extra expense to such person or persons as the Employer may appoint to receive the same and in the event of the Contractor failing to make such payment, the said amount shall be recoverable from them in such manner as the Employer may determine,

7.73 Recovery of deducted amount

7.73.1 Without prejudice to any of their legal rights, the Trustees shall have the power to recover the amount of **DEDUCTION**, from any money due or likely to become due to the Contractor. Such payment or deduction shall not relieve the Contractor from their obligation to complete the work or from any of their other obligations / liabilities under the contract.

7.74 Variation and its valuation

7.74.1 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:

- 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.

- 7.74.2 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.
- 7.74.3 Provided always that written order of the Engineer shall not be required for increase or decrease in the quantity of any work up to 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 "Price Schedule". 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.
- 7.74.4 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.
- 7.74.5 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.
- 7.74.6 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 bid), 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.
- 7.74.7 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 **GCC Clause Nos. 7.74.5 & 7.74.6**, 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.

H. TERMINATION BY EMPLOYER

7.75 Notice to correct

- 7.75.1 If the Contractor fails to carry out any of their obligations under the contract, the Engineer may give notice to the Contractor, requiring them to make good the failure and to remedy the same within a specified reasonable time.

7.76 Termination by Employer

- 7.76.1 The Employer shall be entitled to terminate the contract if:
 - a) the Contractor fails to comply with **GCC Clause No. 7.20 [Performance Guarantee / Security Deposit]**
 - or
 - with a notice under **GCC Clause No. 7.75 [Notice to correct]**,

- b) the Contractor **abandons** the work, or **repudiates** the contract, or otherwise plainly demonstrates the intention not to continue performance of their obligations under the contract,
- c) the Contractor, without reasonable or lawful excuse under this contract,
 - i) fails to proceed with the work, **within 14 days** from the scheduled date for commencement of work, in accordance with **GCC Clause No. 7.56 [Preliminary time to commence work and maintenance of steady rate of progress]**,
 - ii) keeps the work suspended for **at least 14 days**, despite receiving Engineer's written notice to proceed with the work,

or

 - iii) fails to comply with a notice issued regarding rejection of material(s)/work and/or remedial work, **within 28 days** after receiving it,
- d) the Contractor **assigns/sub-contracts the whole of the work**

Or

sub-contracts any portion of the work, without the required consent, in line with **GCC Clause No. 7.22**.
- e) the Contractor becomes **bankrupt** or **insolvent**, goes into liquidation, have a receiving or administrative order made against them, compounds with their creditors, or carries on business under a receiver, trustees or manager for the benefit of their creditors, or if any act is done or event occurs which (under applicable laws) has a similar effect to any of these acts or events,
- f) the Contractor gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward,
 - i) for doing or forbearing to do any action in relation to the contract, or
 - ii) for showing or forbearing to show favour or disfavour to any person in relation to the contract,

or, if any of the Contractor's personnel, Agents or Sub-contractors gives or offers to give (directly or in directly) to any person any such inducement or reward as is described in this **sub-paragraph (f)**. However, lawful inducement and reward to the Contractor's personnel shall not entitle termination
- g) the Contractor fails to execute the work in accordance with the contract

or

persistently or flagrantly neglects to carry out their obligations under the contract.
- h) the Contractor fail to make payment of wages to their personnel in relation to this contract,
- i) the Contractor fails to carry out the work satisfactorily (as stated in these bidding documents or otherwise decided by the Engineer) or may

not be able to complete the work within the agreed period on account of Contractor's lapses.

- j) any accident occurs due to improper way of working by the Contractor's personnel, or
- k) any misconduct done by Contractor's personnel (including that of Agents or Sub-contractors) to SMP Kolkata's employees.

In any of these event or circumstances, the Employer may, upon giving a **minimum 14 days' notice** [communicated by the Engineer] to the Contractor, **terminate the contract** and expel the Contractor from the site, without being liable for any compensation to the Contractor. However, in case of **sub-paragraph I or (f)**, the Employer may, by notice [communicated by the Engineer], terminate the contract immediately.

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

- 7.76.2 Upon receipt of the letter of termination of work, which may be issued by the Engineer on behalf of the Employer, the Contractor shall have to leave the site of work and deliver any **required goods**, all **Contractor's documents**, and other **design documents**, made by or for them, all the **Trustees' tools, plant and materials** issued to them, at the place to be ascertained by the Engineer, **within 7 days** of receipt of such letter. However, the Contractor shall use their best efforts to comply immediately with any reasonable instructions included in the notice

- i) for the assignment of any Sub-contractor,
and
- ii) for the protection of life or property or for the safety of the equipment/work.

The Contractor shall not be released from any of their obligations or liability under the contract and the rights & authorities conferred on the Employer and Engineer, by the contract, shall not be affected.

- 7.76.3 Upon such termination of work, the Employer shall have the power to complete the work by **themselves** and/or through **any other agency** at the **Contractor's risk & 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 they duly completed the whole of the work in accordance with the contract.**

The Employer or such other agency may use, for such completion, so much of the Contractor's documents, other design documents, made by or on behalf of the Contractor, Contractor's equipment, temporary work, plant & materials, as they think proper.

Upon completion of the work, or at such earlier date, as the Engineer shall give notice that the Contractor's equipment and temporary work will be released to the Contractor at or near the site, the Contractor shall remove or arrange removal of the same from such place without delay and at their risk & cost. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall be paid to the

Contractor.

7.77 Valuation at date of termination

- 7.77.1 As soon as practicable after a notice of termination under **GCC Clause No. 7.76 [Termination by Employer]**, has taken effect, the Engineer shall proceed in accordance with **GCC Clause No. 7.19 [Determinations]** to agree or determine the value of the work, goods & Contractor's documents, and any other sums due to the Contractor for work executed, in accordance with the contract. The value of such work (executed in accordance to the Contract) shall be determined based on measurements of actual work done and approved rate(s), as per contract or other rates, as decided by the Engineer. The Engineer's decision, in such case, shall be final, binding and conclusive.

7.78 Payment after termination

- 7.78.1 After a Notice of termination, under **GCC Clause No. 7.76 [Termination by Employer]** has taken effect, the Employer may

- a) give notice to the Contractor, indicating the particulars, for which Employer is entitled to any payment under any Clause or otherwise in connection with the contract, and or any extension of the **Defect Notification Period**.

However, Notice is not required for payments due under **GCC Clause No. 7.26 [Supply of water and Electricity]**, under **GCC Clause No. 7.27 [Use of ground and land/covered space for Contractor's establishment]**, or for other services requested by the Contractor,

- b) withhold further payments to the Contractor until the cost of execution, completion and remedying of any defects, damage, and all other costs incurred by the Employer, have been established, and / or
- c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the work, after allowing for any sum due to the Contractor under **GCC Clause No. 7.77 [Valuation at date of termination]**. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

7.79 Employer's entitlement to termination for convenience

- 7.79.1 The Employer, by notice [communicated by the Engineer] sent to the Contractor, may terminate the Contract, in whole or in part, at any time **for Employer's convenience**. Such termination shall take effect **28 days** after the date on which the Contractor receives this notice or the Employer returns the Performance Guarantee. The notice of such termination shall specify that termination is for **Employer's convenience**, the extent to which performance of the Contractor under the contract is terminated, and the date upon which such termination become effective.

The Employer shall not terminate the contract under this Sub-clause in order to execute the work exclusively by themselves or to arrange for work to be executed exclusively by another Contractor or to avoid a termination of the contract by the Contractor under **GCC Clause No. 7.82 [Termination by Contractor]**.

After such termination, the Contractor shall proceed in accordance with **GCC Clause No. 7.83 [Cessation of work and removal of Contractor's equipment]** and shall be paid in accordance with **GCC Clause No. 7.90 [Optional termination, payment and release]**.

7.80 Corrupt or fraudulent practices

- 7.80.1 If the Employer determines that the Contractor has engaged in **corrupt, fraudulent, collusive, coercive, or obstructive** practices, in competing for or in executing the Contract, then the Employer may, after giving **14 days notice** to the Contractor, terminate the Contractor's employment under the Contract and expel them from the Site, and the provisions of **GCC Clause Nos. 7.75 to 7.78** shall apply as if such expulsion had been made under **GCC Clause No. 7.76 [Termination by Employer]**.

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the work, then that employee shall be removed in accordance with **GCC Clause No. 9.21 [Contractor's personnel and Contractor's representative]**.

For the purposes of this clause:

- i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v) "obstructive practice" is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede the Employer investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and / or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.

I. SUSPENSION AND TERMINATION BY CONTRACTOR

7.81 Contractor's entitlement to suspend work

- 7.81.1 The Contractor may, if the Employer fails to pay the Contractor the amount due under any certificate of the Engineer **within 28 days** after the expiry of the time stated in **GCC Clause No. 7.71 [Terms of payment]** within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract, after giving 28 days' prior notice to the Employer, with a copy to the Engineer, suspended work or reduce the rate of

work.

- 7.81.2 If the Contractor subsequently receives the due payment (as described in the relevant Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.
- 7.81.3 If the Contractor suspends work or reduces the rate of work in accordance with the provisions of this Clause and thereby suffers delay, the Engineer shall, after due consultation with the Contractor, determine any extension of time or minimum criteria for satisfactory performance, to which the Contractor is entitled and shall notify the Contractor accordingly.

7.82 Termination by Contractor

7.82.1 The Contractor will be entitled to terminate the Contract if:

- a) the Contractor does not receive the reasonable evidence within **42 days after** giving notice under **GCC Clause No. 7.81 [Contractor's entitlement to suspend work]** in respect of a failure of the Employer to pay the Contractor the amount due,
 - b) the Employer obstruct or refuse any required approval to the issue of any such certificate, which is essentially required for further progress of the work without notifying any reason for such obstruction or refusal for a unreasonably long period of time, or
 - c) the Employer become bankrupt or insolvent, go into liquidation, or enter into composition with the creditors,
- or
- d) the Employer give notice to the Contractor that for unforeseen reasons, due to economic dislocation, it is impossible for them to continue to meet their contractual obligations.

In any of these events or circumstances, the Contractor may, upon giving **28 days' notice** to the Employer (with a copy to the Engineer), terminate the Contract.

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

7.83 Cessation of work and removal of Contractor's equipment

- 7.83.1 After a notice of termination under **GCC Clause No. 7.79 [Employer's entitlement to termination for convenience]**, **GCC Clause No. 7.82 [Termination by Contractor]** or **GCC Clause No. 7.90 [Optional termination, payment and release]** has taken effect, the Contractor shall promptly:
- a) cease all further work, except for such work as may be necessary and instructed by the Engineer for the purpose of making safe or protecting those parts of the work already executed and any work required to leave the site in a clean and safe condition.
 - b) hand over all construction documents, Plant and Materials for which the Contractor has received payment.

- c) hand over those other parts of the Works executed by the Contractor up to the date of termination
- d) remove all Contractor's equipment, which is on the site and repatriate all their staff and labour from the site.

And

- e) remove all other goods from the site, except as necessary for safety, and leave the site.

Any such termination shall be without prejudice to any other right of the Contractor under the contract.

7.84 Payment on termination

7.84.1 After a notice of termination under **GCC Clause No. 7.82 [Termination by Contractor]** has taken effect, the Employer shall promptly:

- a) return the Performance Guarantee / Security Deposit to the Contractor
- b) pay the Contractor in accordance with **GCC Clause No. 7.90 [Optional termination, payment and release]** ,
and
- c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

J. INSURANCE

7.85 General requirements for insurances

7.85.1 The contractor during the contract period shall provide for insurance of 110% of the contract value including manning upto the commissioning and taking over of the installation.

K. FORCE MAJEURE

7.86 Definition of Force Majeure

7.86.1 In this clause “**Force Majeure** “ means an exceptional event or circumstance

- a) which is beyond the control of the Employer and the Contractor,
- b) which such party (Employer / Contractor) could not reasonably have provided against before entering into the contract,
- c) which, having arisen, such party could not reasonably have avoided or overcome,
and
- d) which is not attributable to other party.

Force Majeure may include, but not limited to, exceptional events or circumstances of the kind listed below, so long as conditions a) to d) above are satisfied:

- i) **war, hostilities** (whether war be declared or not) , **invasion, act of**

foreign enemies;

- ii) **rebellion, terrorism, sabotage by persons other than the Contractor's personnel, revolution, insurrection, military or usurped power, or Civil War;**
- iii) **riot, commotion, disorder, strike or lockout by persons other than the Contractor's personnel;**
- iv) **munitions of war, explosive materials, ionisation radiation or contamination by radio-activity**, except as may be attributable to the Contractor's use of such munitions, explosives, radiations or radio-activity;
- v) **natural catastrophes** such as **earthquake, tsunami** (caused by earthquake at the ocean bed), **fire, floods, hurricane, cyclone, typhoon or volcanic activity**,
and
- vi) **pressure waves** caused by air craft or other aerial devices travelling at sonic or supersonic speed at the site of the work.

7.87 Notice of Force Majeure

- 7.87.1 If a party is or will be prevented from performing its obligations under the Contract by Force Majeure, then it shall give notice to the other party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given **within 48 (forty eight) hours** of the alleged beginning of the relevant event or circumstance constituting Force Majeure, giving full particulars and satisfactory evidence.

The party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this clause, Force Majeure shall not apply to obligations of either party to make payments to the other party under the contract.

7.88 Duty to minimise delay

- 7.88.1 Each party shall at all times use all reasonable endeavours to minimise any delay in the performance of the contract as a result of Force Majeure.

A Party shall give notice to the other party when it ceases to be affected by the Force Majeure, **within 48 (forty eight) hours** of such ending.

7.89 Consequences of Force Majeure

- 7.89.1 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under **GCC Clause No. 7.87 [Notice of Force Majeure]**, and suffers delay and/or non-performance as per the contractual obligations, by reason of such Force Majeure, the Contractor shall be entitled, subject to **GCC Clause No. 7.91 [Engineer's decision]**, to:

- a) an extension of time for any such delay, if completion is or will be delayed, under **GCC Clause No. 7.69 [Extension of completion]**

period and liquidated damage],

and

- b) non-imposition of penalty due to non-performance as per the contractual obligations.

After receiving this notice, the Engineer shall proceed in accordance with **GCC Clause No. 7.19 [Determinations]** to agree or determine these matters.

7.90 Optional termination, payment and release

- 7.90.1 If the execution of all the work in progress is prevented for a **continuous period of 84 days** by reason of **Force Majeure** of which notice has been given under **GCC Clause No. 7.87 [Notice of Force Majeure]**, or for **multiple periods which total more than 140 days** due to the same notified Force Majeure, then either party may give to the other party a notice of termination of the contract. In this event, the **termination shall take effect 7 days after the notice is given**, and the Contractor shall proceed in accordance with **GCC Clause No. 7.83 [Cessation of work and removal of Contractor's equipment]**.

Upon such termination, the Engineer shall determine the value of the work done and issue a payment certificate which shall include:

- a) The amounts payable for any work carried out for which a price is stated in the Contract;
- b) the cost of plant and materials ordered for the work which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery. Such Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer and the Contractor shall place the same at the Employer's disposal;
- c) any other cost or liability, which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works;
- d) the **reasonable Cost** of removal of temporary work and Contractor's equipment from the site and the return of such items to the Contractor's premises,

and

- e) the reasonable cost of repatriation of the Contractor's staff and labour employed wholly in connection with the work at the date of such termination.

L. CLAIMS, DISPUTES AND ARBITRATION

7.91 Engineer's decision

- 7.91.1 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, whether during the execution of the works or after their completion and whether before or after repudiation or other termination of the contract, including any dispute as to any opinion, instruction, determination certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred, in writing, to the Engineer within **30 (thirty) days**, with a copy to the other party. Such reference shall state that it is made pursuant to

this clause. No later than the **thirtieth day** after the day on which he received such reference, the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this clause.

Unless the contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either the Employer or the Contractor be dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the **thirtieth day** after the day on which he received the reference, then either the Employer or the Contractor may, on or before the **seventieth day** after the day on which he received notice of such decision, or on or before the seventieth day after the day on which the said period of thirty days expires, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to **GCC Clause No. 7.94 (Failure to comply with Engineer's decision)**, no arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the **seventieth day** after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor.

7.92 Amicable settlement

- 7.92.1 Where notice of intention to commence arbitration as to a dispute has been given in accordance with **GCC Clause No. 7.91 (Engineer's decision)** above, both parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both parties agree otherwise, arbitration may be commenced on or **after the fifty-sixth day after the day on which a notice of intention to commence arbitration of such dispute was given**, even if no attempt at amicable settlement thereof has been made.

7.93 Arbitration

- 7.93.1 Any dispute in respect of which

- a) the decision, if any, of the Engineer, has not become final and binding pursuant to **GCC Clause No. 7.91 (Engineer's decision)** and
- b) amicable settlement has not been reached within the period stated in **GCC Clause No. 7.92 (Amicable settlement)**,

shall be finally settled by arbitration, in accordance with the **Arbitration and Conciliation Act, 1996 (considering its amendment in 2015)** or any statutory modification or re-enactment thereof and rules made there under and for the time being in force. The **Arbitration Tribunal** shall be composed as per provision of the **Arbitration and Conciliation Act, 1996 (considering**

its amendment in 2015) or any statutory modification or re-enactment thereof and rules made there under and for the time being in force.

7.93.2 In connection with the instant contract:

- a) the place of arbitration shall be **Kolkata** or **Haldia**, West Bengal, India,
- b) the arbitration shall be conducted in **English language**,
and
- c) the fees, if any, of the Arbitrators, if required to be paid before the award of work in respect to disputes is made and published, shall be shared equally by each of the parties

7.93.3 The Arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion, valuation or decision of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the parties and the Engineer from being called as a witness and giving evidence before the Arbitrators on any matter, whatsoever, relevant to the dispute.

7.93.4 Neither party shall be limited in the proceedings before such Arbitrators to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision pursuant to **GCC Clause No. 7.91 (Engineer's decision)**. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the Arbitrators on any matter whatsoever relevant to the dispute.

7.93.5 Arbitration may be commenced prior to or after completion of the works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the works.

7.94 **Failure to comply with Engineer's decisions**

7.94.1 Whether neither the Employer nor the Contractor has given notice of intention to commence arbitration of dispute within the period stated in **GCC Clause No. 7.91 (Engineer's decision)** and the related decision has become final and binding, either party may, if the other party fails to comply with such decisions, and without prejudice to any other rights it may have, refer the failure to arbitration, in accordance with **GCC Clause No. 7.93 (Arbitration)**. The provision of **GCC Clause No. 7.91 (Engineer's decision)** and **GCC Clause No. 7.92 (Amicable settlement)** shall not apply to any such reference.

7.95 **Progress of work not to be interrupted**

7.95.1 The Contractor must, at all the times, fulfil their obligations under the contract and shall not slow down or stop the progress of work during the period any dispute is under settlement either through reference to the Engineer or through arbitration, pursuant to the preceding clauses. Even if the works to be carried out during such a period involve matters under dispute, the Contractor shall nevertheless proceed with the works as per direction of the Engineer, pending settlement of the dispute. Failure of the Contractor, in this respect, shall constitute default on their part and render them liable to actions under the provisions of **GCC Clause No. 7.76 [Termination by Employer]**.

SECTION – VIII

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 (I&CF), 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 22⁰²' North and Longitude 88⁰⁶' 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:

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 (Dock), I&CF, 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, equipments 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, equipments, means of access or any other aspect.

The contractor shall provide all necessary first aid measures, rescue and life saving equipment to be available in proper condition.

The contractor shall provide PPE's (Personal Protective Equipments) 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 equipments 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 –

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

- (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 CONSTRUCTION OF SITE OFFICE, STORE ETC.:

On an application from the Contractor, land near to the site of work will be allotted by the Trustees for the construction of Site Office, Store etc. For such allotment a rent will be recovered from Contractor's bill at prevailing rates of HDC plus applicable GST. The Contractor shall hand over vacant possession of the land free from all encumbrances within two months from actual date of completion of work. In case the contractor does not remove the site offices, store etc. within two months from the actual date of completion, the contractor will have to pay compensation equivalent to **three times** the applicable licence fee for the plot of land allotted to him temporarily for site offices, store etc. as per Schedule of Rent of Ko.PT's land and buildings at Haldia and to be recovered from his final bill / Security Deposit. The Contractor shall build office, sheds etc. on the land allotted to him as approved by the Engineer or his representative and shall maintain a clean hygienic condition throughout the period of their use.

The Contractor shall maintain a Site Order Book at his site office and all orders and instructions issued to him from time to time by the Engineer or his representative will be recorded in the Site Order Book. The Contractor shall promptly sign each entry as a token of having received such orders.

1.10 LABOUR, TOOLS & PLANTS:

The Contractor shall supply all necessary labour, tools and plants required for satisfactory execution of the work.

1.11 ESCALATION / VARIATION ON PRICES:

No Escalation / Variation on the prices on any account will be considered for adjustment / payment.

1.12 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.

1.13 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).

1.14 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.

1.15 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.

1.16 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.

1.17 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 for two rooms with 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 equipments 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 4 persons with 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 8:00 A.M to 10:00 P.M during currency of contract. 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 15 th day from the date of work order and shall finish on the date of completion of work including extension of date of completion, if any.

Clause No. 7.20

Performance Guarantee / Security Deposit

Clause No. 7.20.1

- 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. 7.67.1**). 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 and forfeiting the Earnest Money Deposit.

- 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. 7.67.1**). 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. 7.20.1 i).**

Clause No. 7.20.11

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. 7.20.1 ii)**] 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. 7.67.1**), the Contractor may apply for release / refund of his Performance Guarantee/Security Deposit [as stated in **SCC Clause No. 7.20.1 i)**] 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. 7.20.1 i)**] or refund the balance due against the Performance Guarantee/Security Deposit [as stated in SCC **Clause No. 7.20.1 i)**] 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. 7.20.1 ii)**] by submitting to the Engineer “No Claim Certificate”, as per the form furnished in Section-XI, whereupon the Engineer shall issue “Certificate of Final Completion” [as per the form furnished in Section-XI] . The Engineer shall also issue necessary recommendation for release of the said Performance Guarantee/Security Deposit [as stated in SCC **Clause No. 7.20.1 ii)**] or refund the balance due against the Performance Guarantee/Security Deposit [as stated in SCC **Clause No. 7.20.1 ii)**] to the Contractor, after making deduction therefrom in respect of any sum due to the Trustees from the Contractor.

Clause No. 7.26

Supply of water and Electricity

Clause No. 7.26.1

Supply of water:

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).

For supply of water by Trustees to the Contractor, an amount equivalent of **1% (one percent)** of the gross bill value for cementitious items only shall be progressively recovered from the running bill including final bill as applicable

Clause No. 7.26.2

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).

Clause No. 7.27

Use of ground and land / covered space for Contractor's establishment

Clause No. 7.27.1

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. 7.27.2

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. 7.52

Inspection and testing

Clause No. 7.52.1

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 3rd 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. 7.52.12

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. 7.65

Completion Period

Clause No. 7.65.1

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. 7.67

Defect Liability Period (DLP)

Clause No. 7.67.1

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 **GCC Clause No. 7.66** (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. 7.67.2

During “**Defect Liability Period**” of the **Contract job** [as specified in **SCC Clause No. 7.67.1 i)**], 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. 7.68

Defects after taking over

Clause No. 7.68.1

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 7.71

Clause No. 7.71.2

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.

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 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 half yearly 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.

- Normally, the breakdown call is to be attended /commissioned within 48 hours from the date and time of breakdown call.
- The breakdown call is to be attended /commissioned within 7 days from the date of breakdown call in case, it is not possible to commission the system due to valid reasons (major fault, replacement of spare parts not readily available etc.) which is to be acceptable to Engineer.

Non acceptance of reasons by Engineer for delay / non-commissioning of equipment within 7 days will attract penalty.

The contractor will have to pay to the trustee @ 0.1% of the Maintenance Contract value / day if delay in commissioning of system from 8th day onwards.

SECTION – IX
BIDDING FORMS

BIDDING FORM – I

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 2017-18, 2018-19 and 2019-20** , based on the **Balance Sheets and Profit & Loss Accounts**, are given below:

Financial years	Turnover (as per Auditor's Report / Balance Sheet) [in Rs]
2017-18	
2018-19	
2019-20	
<i>Total</i>	
<i>Average Annual Turnover</i>	

SIGNATURE OF CHARTERED ACCOUNTANT ::

NAME OF CHARTERED ACCOUNTANT ::

(COMPANY SEAL)

NOTE: Copy of Balance Sheets and Profit & Loss Accounts enclosed with sealed & signed.

(II) TECHNICAL EXPERIENCE

Sl. No.	Contract No. / Order No. and date	Name of the Employer and Place of work	Contract value [in Rs.]	Date of completion of work	Page number(s) of reference / supporting document (s), uploaded.

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

BIDDING FORM-II**OTHER DOCUMENTS**

[To be filled up and uploaded, duly signed & stamped]

	Requirement	Submitted/Not submitted [Put √ if submitted & X if not submitted]	Validity/ For the month of
a)			
i)	GST Registration Certificate.	<input type="checkbox"/> If submitted, Page Number(s):	Not applicable.
ii)	Document in support of non-applicability.	<input type="checkbox"/> If submitted, Page Number(s):	Not applicable.
b)			
i)	Profession Tax Clearance Certificate (PTCC)	<input type="checkbox"/> If submitted, Page Number(s):	
	<u>OR</u> Profession Tax Payment Challan (PTPC)	<input type="checkbox"/> If submitted, Page Number(s):	
ii)	Document in support of non-applicability.	<input type="checkbox"/> If submitted, Page Number(s):	Not applicable.
c)			
i)	Certificate for allotment of EPF Code No.	<input type="checkbox"/> If submitted, Code No.: Page Number(s):	Not applicable.
ii)	Latest EPF Payment Challan.	<input type="checkbox"/> If submitted, Page Number(s):	
iii)	Document in support of non-applicability.	<input type="checkbox"/> If submitted, Page Number(s):	Not applicable.
d)			

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

	Requirement	Submitted/Not submitted [Put √ if submitted & X if not submitted]		Validity/ For the month of
i)	Registration Certificate of ESI Authority.	<input type="text"/>	If submitted, Code No.: Page Number(s):	Not applicable.
ii)	Affidavit, Declaration and Indemnity Certificate.	<input type="text"/>	If submitted, Page Number(s):	Not applicable.
e)	PAN Card	<input type="text"/>	If submitted, PAN No.: Page Number(s):	Not applicable.
f)	MSME / MSE / DIC / SSI / NSIC certificate	<input type="text"/>	If submitted, Page Number(s):	
g)	Power of Attorney	<input type="text"/>	If submitted, Page Number(s):	Not applicable.

BIDDING FORM-III**GENERAL INFORMATION OF THE BIDDER**

[To be filled up and uploaded, duly signed & 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 Proprietorship Firm or Partnership Firm or Limited Company .		
6.	Details of the Banker(s) :		
	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.	Bank details for ECS payment :		
	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.	Income Tax and Goods & Services Tax (GST) details (if applicable):		
	a)	Permanent Account Number (PAN)	
	b)	GST Registration Number (GSTIN)	
9.	Employees' Provident Fund (EPF) Code No.		
10.	Employees' State Insurance (ESI) Code No.		
11.	Mainlines of business		

FORMAT FOR DECLARATION

[To be printed on the bidder's Letter Head and uploaded after signing]

To,
General Manager (Engg.)
Haldia Dock Complex,
Syama Prasads Mookerjee Port, Kolkata

Name of Work: “Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 M high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”.

Tender No. SDM(P&E)/T/74/2020-2021

E-Tender No. 2020_KoPT_600112_1

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://eprocure.gov.in/eprocure/app> 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 Prasads Mookerjee Port, Kolkata

Name of Work: “*Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 M high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)*”.

Tender No. : Tender No. SDM(P&E)/T/74/2020-2021
E-Tender No.: E-Tender No. 2020_KoPT_600112_1

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
**“Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 M high Hot Dip
Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on
40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year
at Haldia Dock Complex, SMP, Kolkata (Phase-II)”**, 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://eprocure.gov.in/eprocure/app>*], withinmonth 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 requiredays preliminary time to arrange and procure the
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 22,82,685.00 (**Indian Rupees: Twenty-two lakh eighty-two
thousand six hundred eighty-five**) only, as Earnest Money, to Haldia Dock Complex,

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED
fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract
of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

through DD/Banker Cheque in favour of **Syama Prasasd Mookerjee Port,Kolkata** on any Scheduled/Nationalized Bank payable at **Haldia**.

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)

PRICE SCHEDULE

[To be filled up and uploaded, duly signed & stamped]

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
PART A- Illumination						
1	<u>High Mast:</u>					
	Supply, Installation, Testing and Commissioning of 30 Mtrs. High High mast type lighting tower complete with all relevant accessories as per Technical Specification.					
(i)	Supply	No.	25			
(ii)	Installation, Testing and Commissioning	No.	25			
(iii)	Dismantling, Transportation, re-installation, Testing and Commissioning of existing 30Mtrs. High Mast Towers.	No.	7			
2	<u>Junction Box:</u>					
	Supply, Installation, Testing and Commissioning of Junction Box, Outdoor type, dust, vermin weather proof fabricated from SS316 grade sheet of 2mm thick, suitable angled and flat etc. and as per Technical Specification. Job includes replacement of existing JB with new JB and termination of existing cables for commissioning of JB.					
(i)	Supply	No.	2			
(ii)	Installation, Testing and Commissioning	No.	2			
3	<u>Load Point Panel:</u>					
	Supply, Installation, Testing and Commissioning of Load Point Panel for Outdoor type, dust, vermin weather proof fabricated from SS316 grade sheet of 2mm thick, suitable angled and flat etc. and as per Technical Specification.					
(i)	Supply	No.	8			
(ii)	Installation, Testing and Commissioning	No.	8			
4	<u>Feeder Pillar with Intelligent smart lighting control system:</u>					
	Supply, Installation, Testing and Commissioning of Feeder Pillar with Intelligent smart lighting control system for 30 Mtr. High Masts for Outdoor type, dust, vermin weather proof fabricated from SS316 grade sheet of 2mm thick, suitable angled and flat etc. and as per Technical Specification.					
(i)	Supply	No.	25			
(ii)	RCC Foundation, Installation, Testing, and Commissioning	No.	25			

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
5	<u>Luminaries & Lamps:</u>					
	Design, Supply, Installation, testing and commissioning of following LED luminaries with complete accessories as per Technical Specification.					
(i)	Design, Supply of LED Luminaire for 25Nos. new and 40Nos. existing HM towers as per design.	LS	LS			
(ii)	Installation, Testing and Commissioning LED Luminaire on 30 high mast as per design.	LS	LS			
(iii)	Dismantling of 1x400W HPSV Luminaire with CG Boxes & 2x400W HPSV Luminaire from existing 40Nos., 30M high mast and transporting of luminaires to HDC store. (Apporx. 720Luminaire and 1280CG Boxes)	LS	1			
6	<u>LT Cable:</u>					
	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	5			
(ii)	Supply of 3.5 C X 240 Sq.mm.	KM	3			
(iii)	Supply of 3.5 C X 25 Sq.mm.	KM	4			
7	<u>Laying, testing and commissioning of LT Cables:</u>					
	Laying, testing and commissioning of LT Cables including termination of cable at Outdoor feeder pillar, load point panel, Junction box and Sub-station. Job includes supply and installation of Hume and GI pipe.					
(i)	By existing RCC trench/Hume pipe/GI Pipe.	KM	0.1			
(ii)	By excavating trench.	KM	8.8			
(iii)	By removal of paver blocks, excavating trench and refixing of the same after laying.	KM	2			
(iv)	By 150mm dia. Hume pipe through excavating.	Mtrs.	244			
(v)	By 150NB GI Pipe through excavating	Mtrs.	256			
(vi)	By 150NB GI Pipe through Boring	Mtrs.	600			
8	<u>Aviation Light:</u>					
	Supply, Installation, Testing and Commissioning of Twin Dome LED type Aviation Obstruction Luminary.					
(i)	Supply	Sets	65			
(ii)	Installation, Testing and Commissioning	Sets	25			
(iii)	Dismantling existing fitting and Installation, Testing and Commissioning of newly supplied aviation lights.	Sets	40			
9	<u>Earthing System:</u>					
	Supply, Installation, termination, interconnection between earthing station and High Mast, Load panel, Feeder pillar as per Technical Specification.	No	85			
10	<u>GI strip laying:</u>					

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
	Supply, laying and termination of size of 50 X 6 MM GI strip as per Technical Specification.					
(i)	Supply	Mtr.	580			
(ii)	Laying, termination, commissioning and interconnection between earthing station.	Mtr.	580			
11	<u>Protection Guard:</u>	LS	32			
	Design, 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 be collected from HDC's store /Yard. Job includes transportation, cutting, erection including providing necessary foundation work. Foundation dimension- [Depth-600mm x 450mm x450mm]. 2 nd hand /used Rail would be provided by HDC on free of cost basis.					
12	<u>Existing High Mast Tower :</u>					
	Replacement of wire rope, MCB's, Trailing cable's, JB's, winch assembly and all accessories [mounting plate, stopper's etc.] in existing HM Towers except pulley's for wire rope / trailing cable at the top of the mast. Replacement jobs may involve dismantling of existing High Mast Tower.					
(i)	Supply of Double gear, Double drum, Double pinion winch assembly as per technical specification along with 3 phase 2HP Motor, torque limiter, mounting plate, stopper's etc. as required to commission the system.	Nos.	40			
(ii)	Dismantling of existing Double gear, Double drum, Double pinion winch, motor assembly etc. and installation of newly supplied items as mentioned in item (i) above on 30M high mast and transporting of dismantled items to HDC store.	Nos.	40			
(iii)	Supply of 2Nos. wire ropes on existing 30M high mast each (62Mtrs. Each) along with accessories like stopper , lock, eye bolts etc.	Sets	40			
(iv)	Installation of 2 wire ropes on existing 30M high mast (62Mtrs. Each) along with accessories like stopper ,lock, eye bolts etc.	Sets	40			
(v)	Supply of 40A/63A TPN Class-C MCB, 10kA.	Nos.	150			
(vi)	Installation of 40A/63A TPN Class-C MCB at High Mast / existing FPB and interconnection work with 10 Sqmm flexible copper wire. Including supply and installation of stud type copper terminals suitable for termination of 3.5cx35Sqmm, Al. armoured cable.	Sets	150			
(vii)	Supply of 2x 5Cx4sqmm. EPR insulated trailing cable (62Mtrs. Each) along with high mast raising arrangement with Weather proof JB's.(2Nos. each high mast) and industrial type 5pin male-female socket.	Sets	40			

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
(viii)	Installation of 2x 5Cx4sqmm. EPR insulated trailing cable (62Mtrs. Each) along with high mast raising arrangement with Weatherproof JB's. (2Nos. each high mast) and industrial type 5pin male-female socket.	Sets	40			
(ix)	Providing GI Lantern carriage for existing 40 Nos., 30M High Mast Towers as per design. [Job included supply and installation].	Nos.	40			
Sub-Total Part A =						
PART B- Electrics Package						
1	<u>500kVA,Outdoor Package sub-station:-</u>					
	Supply, Installation, testing and commissioning of Package Outdoor Sub-Station as per Technical Specification.					
(i)	Supply	No.	2			
(ii)	Installation, testing and commissioning	No.	2			
2	<u>11kV HT VCB Panel, 630A:-</u>					
	Supply, Installation, testing and commissioning of HT VCB Panel at Sub-Station of HDC,11kV, 630A, 25kA for 3Sec. as per Technical Specification. [2Panels]					
(i)	Supply	Sets	1			
(ii)	Installation, testing and commissioning	Sets	1			
3	<u>HT Cable:-</u>					
	Supply of H.T. cable as per Technical Specification.					
(i)	Supply of 11kV I, U.G., 3 C X185 Sq.mm. XLPE,Alu conductor, ST-2 sheathed, armoured, FR cable.	Mtrs.	3,000			
4	<u>HT Cable Laying:-</u>					
	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.	Mtrs.	50			
(ii)	By excavating trench.	Mtrs.	2,250			
(iii)	By removal of paver blocks, excavating trench and refixing of the same after laying.	Mtrs.	342			
(iv)	By 150mm dia. NP4 Hume pipe through open cut excavation.	Mtrs.	54			
(v)	By 150mm dia. Heavy duty GI Pipe through open cut excavation.	Mtrs.	54			
(vi)	By 150mm dia. Heavy duty GI Pipe through Boring.	Mtrs.	250			
5	<u>Earthing System:</u>	No	8			
	Supply, Installation, termination, interconnection between earthing station and High Mast, Load panel, Feeder pillar as per Technical Specification.					

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
6	<u>11kV End termination Kit:-</u>					
	Supply and installation of indoor type heat shrinkable end termination kit for HT, 11kV, 3X185Sqmm XLPE UG Aluminium, armoured Cables.					
(i)	Supply	No.	8			
(ii)	Installation, Testing & commissioning	No.	8			
7	<u>GI strip laying:</u>					
	Supply, laying and termination of size of 50 X 6 mm GI strip as per Technical Specification.					
(i)	Supply	Mtr.	120			
(ii)	Laying, termination, commissioning and interconnection between earthing station.	Mtr.	120			
Sub-Total(Part B)-						
PART C- Civil Foundation						
1	<u>30 Mtr. High Mast:</u>					
	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 thereafter to make the base suitable for High Mast foundation), Double Layer brick soiling, PCC, Supply of foundation accessories consisting required numbers of foundation bolts ,Nuts, Washers, Anchor Plates, Template etc. in complete and 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 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.	24			
(ii)	Design & Construction of foundation 30 Mtr. High New High Mast Towers foundation (By Pile foundation).	Nos.	1			
(iii)	30 Mtr. High for existing High Mast Towers (As per Drg.)	Nos.	7			
2	<u>Load Point Panel and Junction Box:</u>					
	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. (As per Drg.)	Nos.	10			
3	<u>Outdoor Package Sub-station:</u>					
	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. (As per Drg.)	Nos.	2			

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

SL. NO	Item Description	Unit	Qty	Applicable % of GST		
				SGST	CGST	IGST
Sub-Total Part C =						
PART D- Maintenance Contract						
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 commissioning of the system. Contractor shall maintain calibrated Lux meter at site, for measuring and recording periodic lux level of area being illuminated. No payment would be made for the work performed during guarantee period of 1st year & 2nd year.					
(i)	Non-Comprehensive maintenance during Guarantee period of 1 st year & 2nd year).	Nos.	72			
(ii)	Comprehensive maintenance with spares (except luminaire) during 3rd year.	Nos.	72			
(iii)	Comprehensive maintenance with spares (except luminaire) during 4th year.	Nos.	72			
(iv)	Comprehensive maintenance with spares (except luminaire) during 5th year.	Nos.	72			
Sub-Total Part D =						
Total [Part A + Part B + Part C +Part D] =						

PART E- Energy cost based on Design offered		Wattage of each luminaire (W)	No. of Luminaire per High Mast Tower (Nos.)	Total cost of energy for 10years operation $E = F \times W \times \text{Nos.}$
1	Cost of energy based on design offered for 10years operation: - Factor (F)= 446.760 [Year @10 = 3650days Operation per day =12Hrs. Cost of energy=Rs10per unit <u>Loss@2%=1.02;</u> Watt to KiloWatt conversion= 1/1000 $F=3650 \times 12 \times 10 \times 1.02/1000 = 446.760]$			
Grand Total {Total [Part A + Part B + Part C +Part D] + Total E} =				

Note: 1. Part E is for evaluation of Price Bid only.

2. LOA on the successful bidder would be placed considering Total cost arrived at by addition of Part A + Part B + Part C +Part D above.

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

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 beings 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)

(Office Seal)

(For & on behalf of Bidder/Contractor).

(Office Seal)

Place :

Date :

Witness 1:

(Name & Address)

.....

.....

Witness 2:

(Name & Address)

.....

.....

ANNEX-A

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.

**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 “Syama Prasad Mookerjee Port, Kolkata” 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.....BankBranch, Kolkata / Haldia, to decline or fail or neglect to make payment to the Trustees in the manner and within the time aforesaid.
3. WeBank.....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 ofdays 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 usBankBranch, 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)

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

BANK.....

BRANCH.....Kolkata/Haldia.

SECTION - X

CHECKLIST

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 **CPPP** only.*

Sl. No.	Particulars	Submitted/ Not submitted [Put √ if submitted and put X if not submitted]	If submitted, page numbers
1.	Filled up checklist.	<input type="checkbox"/>	<input type="checkbox"/>
2.	Proof of Bid Document Fee .	<input type="checkbox"/>	<input type="checkbox"/>
3.	Proof of Earnest Money Deposit (EMD) . Annexure-H for EMD.	<input type="checkbox"/>	<input type="checkbox"/>
4.	Certificate of getting benefit by MSME / SSI / NSIC for exemption of Bid Document Fee and Earnest Money ,	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
5.	Bidding Forms		
	i) Bidding Form – I	<input type="checkbox"/>	<input type="checkbox"/>

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

Sl. No.	Particulars		Submitted/ Not submitted [Put $\sqrt{}$ if submitted and <u>put X if not submitted</u>]	If submitted, <u>page numbers</u>
	ii)	Bidding Form - II	<input type="checkbox"/>	<input type="checkbox"/>
	iii)	Bidding Form – III	<input type="checkbox"/>	<input type="checkbox"/>
	iv)	Bidding Form - IV	<input type="checkbox"/>	<input type="checkbox"/>
	v)	Bidding Form – V	<input type="checkbox"/>	<input type="checkbox"/>
	vi)	Bidding Form - VI	<input type="checkbox"/>	<input type="checkbox"/>
	vii)	Bidding Form - VII		
			<input type="checkbox"/>	<input type="checkbox"/>

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:

Tender No. SDM(P&E)/T/ 74 /2020-2021

E-Tender No. 2020_KoPT_600112_1

“Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”

ORDER REFERENCE: / /O-... dated

This agreement made this day of , Two thousand ,
BETWEEN

The Board of Trustees for the Port of Kolkata, a body corporate -- constituted by the Major Port Trust Act, 1963 (hereinafter called the ‘**Trustees**’, 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**’]

WHEREAS

The Trustees are desirous that certain works should be executed by the Contractor, viz. **“Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”** 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 Tender No. SDM (P&E)/T/74/2020-2021].
 - d) Addenda [Please insert Addenda Nos.]
 - e) “Price Comparative Statement”, showing the prices quoted (electronically, through the website <https://eprocure.gov.in/eprocure/app>) 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

For and on behalf of

HALDIA DOCK COMPLEX
KOLKATA PORT TRUST

(CONTRACTOR)

(TRUSTEES)

SEAL

SEAL

In presence of

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 **Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)**

**Senior Deputy Manager (P&E),
Haldia Dock Complex ;
Operational Administrative Building (1st Floor) ;
Chiranjibpur, P.O.Haldia ; Dist. Purba Medinipur ,
West Bengal, India
PIN : -721 604**

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**.

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 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 for the Port of Kolkata**, a body corporate – duly constituted under the Major Port Trusts Act, 1963 (Act 38 of 1963), (hereinafter referred to as “**The Trustees**”) 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 Trustees’ Work Order No. //...../O-..... dated For **Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)**” 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 Trustees 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 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, Branch, Kolkata...../Haldia, decline or fail or neglect to honour the Bank Guarantee in the manner aforesaid, shall constitute sufficient reason

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

for the Trustees 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 Trustees 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 Trustees 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 Trustees 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 Trustees certify that the terms and conditions of the said contract have been fully and properly observed/fulfilled by the Contractor and accordingly, the Trustees have discharged the Bank Guarantee, subject however, that this guarantee shall remain valid upto and inclusive ofday of.....and subject all so that the provision that the Trustees 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 Trustees, only on a written request by the Trustees 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 Trustees 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 Trustees 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 forbearance, act or commission on the part of the Trustees or any indulgence by the Trustees 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 Trustees at their option shall be entitled to enforce this Guarantee against 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 Trustees may have in relation to the Contractor's liabilities.

6. We,..... :-, lastly undertake not to revoke this Bank Guarantee during its currency except with the previous consent of the Trustees in writing.

SIGNATURE... ..

NAME.....

DESIGNATION.....

(Duly constituted attorney for and on behalf of)

BANK. ,

BRANCH... ..

KOLKATA... .. /HALDIA

(OFFICIAL SEAL OF THE BANK)

Syama Prasad Mookerjee Port, Kolkata
Haldia Dock Complex

CERTIFICATE OF COMPLETION OF WORK

Contractor : _____

Address : _____

Date of completion : _____

Dear Sir,

Subject : “Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”.

Reference : i) **Work Order No.:**/...../...../O-... dated

ii) **Contract No./ Agreement No. :**/...../...../ AGMT /

This is to certify that the above work which was carried out by you is, in the opinion of the undersigned, complete in every respect on the _____ day of _____ 20____, in accordance with terms of the contract and you are required to maintain the work in accordance with **GCC Clause No. 7.67** of the General Conditions of Contract and under provisions of the contract.

(Signature of the Engineer/Engineer's Representative)

Name:

Designation:

Date:

(OFFICIAL SEAL)

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

(“NO CLAIM CERTIFICATE” FROM CONTRACTOR)

[To be submitted on Bidder's Letter Head]

General Manager (Engineering),
Haldia Dock Complex ,SMP, Kolkata.
Engineering Department
Jawahar Tower Complex ;
P.O. Haldia Township;
Dist. Purba Medinipur ;
PIN: -721607
West Bengal, India.

Dear Sir,

Subject : “Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”

Reference :

i) **Work Order No.:**/...../...../O-... dated

ii) **Contract No./ Agreement No. :**/...../...../ AGMT /
...../

I/We do hereby declare that I/we have received full and final payment from Haldia Dock Complex, SMP Kolkata, for the execution of the subject work, and I/we have no further claim against Haldia Dock Complex, Kolkata Port Trust in respect of the above mentioned job.

Yours faithfully,

(Signature of Contractor)

Date :

Name of Contractor :

Address :

(OFFICIAL SEAL OF THE CONTRACTOR)

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).

Syama Prasad Mookerjee Port, Kolkata
Haldia Dock Complex
CERTIFICATE OF FINAL COMPLETION

**General Manager (Finance),
Haldia Dock Complex,
Jawahar Tower Complex,
P.O. Haldia Township,
Dist. Purba Medinipur,
PIN – 721 607,
West Bengal, India.**

Subject : “Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40Nos. existing 30Mtrs. High Mast along with comprehensive maintenance contract of 5year at Haldia Dock Complex, SMP, Kolkata (Phase-II)”

Reference : i) **Work Order No.:**/...../...../O-... dated
ii) **Contract No./ Agreement No. :**/...../...../ AGMT //

This is to certify that the above work, which was carried out by 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 including non-comprehensive and comprehensive maintenance contract period.

(Signature of the Engineer/Engineer’s Representative)

Name:

Designation:

Date:

(OFFICIAL SEAL)

Design, Supply, Installation, Testing and Commissioning of 25 Nos. 30 Mtrs. high Hot Dip Galvanized High Mast Tower with LED fitting and replacement of LED luminaires on 40 Nos. existing 30Mtrs. High Mast along with Comprehensive Maintenance Contract of 5 year at Haldia Dock Complex, SMP, Kolkata (Phase-II).