



KOLKATA PORT TRUST

KOLKATA DOCK SYSTEM

MECHANICAL & ELECTRICAL ENGINEERING DEPARTMENT

8, Garden Reach Road, Kolkata – 700 043

TENDER DOCUMENT

for

Work: “Supply, Installation, Testing & Commissioning of 35 numbers High Mast Lighting Towers along with allied Electrical Installation work and Cabling work for providing illumination at different areas of NSD, KPD-I and Coal Berth Area of KPD-II, Kolkata Port Trust.”

Notice Inviting Tender No.: KoPT/KDS/Mech/SE-I/ADV/537 dated 22.08.2019

- Site inspection followed by pre bid meeting : 29.08.2019 at 12.00 hrs.
- Start date of submission of e-tender : 02.09.2019 from 12.00 hrs.
- Closing date for e- Tender : 24.09.2019 up to 14.30 hrs.
- Date of opening of Techno commercial bid : 25.09.2019 at 14.30 hrs.

Tender Fee: Rs. 2,950/- (including GST) (Non-Refundable)

Chief Mechanical Engineer

TENDER DOCUMENT

KOLKATA PORT TRUST KOLKATA DOCK SYSTEM

e-TENDER FOR “Supply, Installation, Testing & Commissioning of 35 numbers High Mast Lighting Towers along with allied Electrical Installation work and Cabling work for providing illumination at different areas of NSD, KPD-I and Coal Berth Area of KPD-II, Kolkata Port Trust”

NOTICE INVITING TENDER No.: KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

TENDER NOTICE

Mechanical & Electrical Engineering Department of Kolkata Port Trust invites E-Tender under single stage two part system (Part I: Techno-Commercial Bid and Part II: Price Bid) for **“Supply, Installation, Testing & Commissioning of 35 numbers High Mast Lighting Towers along with allied Electrical Installation work and Cabling work for providing illumination at different areas of NSD, KPD-I and Coal Berth Area of KPD-II, Kolkata Port Trust”**.

Bid Document may be downloaded from CPP Portal and KOPT website: www.kolkataporttrust.gov.in
Corrigenda or clarifications, if any, shall be hosted on the above mentioned websites only.

SCHEDULE OF TENDER (SOT)

TENDER NO.	KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019
MODE OF TENDER	e-Procurement System (Online Part I - Techno-Commercial Bid and Part II - Price Bid through CPP Portal.) The intending bidders are required to submit their offer electronically through NIC's CPP Portal for e-Procurement (GePNIC). No physical tender is acceptable by Kolkata Dock System.
Estimated value of Tender	Rs. 4,09,20,143/- (Rupees Four Crore Nine Lakh Twenty Thousand One Hundred and Forty Three Only).
i) Earnest Money Deposit	The intending bidders should submit Earnest Money of Rs. 8,18,403/- (Rupees Eight Lakh Eighteen Thousand Four Hundred and Three Only). to KoPT in the form of Demand Draft/Banker's Cheque/Pay Order from any of the Nationalized/Scheduled Banks in India having branch in Kolkata drawn in favour of “Kolkata Port Trust.

ii)Tender Cost	“Cost of Tender document” containing Banker’s cheque or Pay Order or Demand Draft from any of the Nationalized/Scheduled Banks in India having branch in Kolkata drawn in favour of “Kolkata Port Trust” of Rs 2950/-(Two thousand Nine Hundred & Fifty) including GST as the cost towards purchase of tender document (applicable for downloaded NIT only) or Treasury Receipt of the deposit issued by the Treasurer, Kolkata Port Trust, as the case may be. All Banker’s cheques/Pay Orders/Demand Drafts should be drawn in favour of “Kolkata Port Trust” on any nationalized/Scheduled bank having branch in Kolkata.
	Tender Fee and Earnest Money or NSIC /DIC Certificate, if applicable, are to be uploaded and must be physically submitted to the Chief Mechanical Engineer, Mechanical and Electrical Engineering Department, Kolkata Port Trust, 8, Garden Reach Road, Kolkata -700 043, before opening of tender document, failing which techno-commercial bid will not be opened.

Date of NIT available to parties to download	23.08.2019 at 14-00 hrs.
Date and time of site inspection & Pre-Bid meeting	29.08.2019 at 12-00 hrs.
Date of starting of online submission of bid (Techno-Commercial Bid and price Bid) through CPP Portal	02.09.2019 from 12-00 hrs.
Date of closing of online submission of Bid.	24.09.2019 at 14-30 hrs.
Date and time of opening of Techno-Commercial Bid	25.09.2019 at 14-30 hrs.
Date and time of opening of Price Bid	To be informed separately by letter or email or telephone.

- Online tenders through NIC’s CPP Portal for e-Procurement (GePNIC) mode are invited by Kolkata Port Trust from GST registered Contractors for executing the work.

- The tender document through NIC's CPP Portal for e-Procurement (GePNIC) is open from 26.08.2019 to 24.09.2019 and can be downloaded from the official website of KoPT and through NIC's CPP Portal for e-Procurement (GePNIC).
- The complete tender document can be downloaded from Kolkata Port Trust website: www.kolkataporttrust.gov.in [Tender► Mechanical & Elect. Eng. Dept.] and NIC's CPP Portal for e-Procurement (GePNIC) and bidders are required to submit tender offer through NIC's CPP Portal for e-Procurement (GePNIC) on or before the due date and time of submission. The tenderer shall upload the scanned copy of the DD instruments towards the cost of EMD and bid documents set as proof of payment towards EMD and cost of Bid documents while submitting the tender electronically in the NIC's CPP Portal for e-Procurement (GePNIC).
- The tender offer shall have to be submitted by the Tenderer only through NIC's CPP Portal for e-procurement (GePNIC) mode as explained in the tender document.
- No physical tender is acceptable by Kolkata Dock System, Kolkata Port Trust.
- Minutes of meeting / Corrigendum / addendum / clarifications, if any, shall be hoisted on the **www.kolkataporttrust.gov.in** and **<https://eprocure.gov.in/eprocure/app>**.

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S. Bandyopadhyay
Chief Mechanical Engineer
KOLKATA PORT TRUST
Tender Inviting Authority

Instructions to Tenderers

This is an e-procurement event of Kolkata Port Trust. The e-procurement service provider is NIC's CPP Portal for e-Procurement (GePNIC).

You are requested to read the terms & conditions of this tender before submitting your online tender. Tenderers who do not comply with the conditions with documentary proof (wherever required) will not qualify in the Tender for opening of price bid.

1.	Online tenders through NIC's CPP Portal for e-Procurement (GePNIC) mode are invited by Kolkata Port Trust from GST registered domestic Contractors for executing the work. The tender document through NIC's CPP Portal for e-Procurement (GePNIC) is open from 26.08.2019 (12:00 hrs) to 24.09.2019 (14:30 hrs) and can be downloaded from the official website of KoPT and through NIC's CPP Portal for e-Procurement (GePNIC). The complete tender document can be downloaded from Kolkata Port Trust website: www.kolkataporttrust.gov.in and NIC's CPP Portal for e-Procurement (GePNIC) and bidders are required to submit tender offer through NIC's CPP Portal for e-Procurement (GePNIC) on or before the due date and time of submission. The tenderer shall upload the scanned copy of the DD instruments towards the cost of EMD and bid documents set as proof of payment towards EMD and cost of Bid documents while submitting the tender electronically in the NIC's CPP Portal for e-Procurement (GePNIC). The tender offer shall have to be submitted by the Tenderer only through NIC's CPP Portal for e-procurement (GePNIC) mode as explained in the tender document.
2.	The Techno-commercial Bid and the Price Bid shall have to be submitted online at https://eprocure.gov.in/eprocure/app (A). Part – I (Techno-Commercial bid): Would be opened electronically on specified date and time as given in the NIT. Bidder(s) can witness the opening of Techno-commercial Bid electronically. (B) Part – II (Price bid): Would be opened electronically of only those bidder(s) whose Part – I Techno-Commercial bid are acceptable by KoPT. Such bidder(s) will be intimated the date of opening of Part II (Price bid) through valid e-mail confirmed by them. The tenderers are advised to offer their best possible rates. There would generally be no negotiations. Bidders are requested to submit their most competitive prices while submitting the price bid.
3.	All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

4.	In case of any clarification, please contact KoPT (before the scheduled time of the e- tender). Contact person (KoPT): <table border="0"> <tr> <td data-bbox="225 293 719 450"> 1. Mr. Somnath Bandopadhyay Chief Mechanical Engineer Mobile No. 96747 33364 Email: cme@kolkataporttrust.gov.in </td><td data-bbox="831 293 1406 450"> 2. Mr. Sourav Mitra Dy. Chief Mechanical Engineer-II Mobile No. 96747 20040 Email: souravmitra@kolkataporttrust.gov.in </td></tr> </table> 3. Mr. Santanu Kr. Das Superintending Engineer (Elect)-I Mobile No. 9674720037 Email: santanudas@kolkataporttrust.gov.in	1. Mr. Somnath Bandopadhyay Chief Mechanical Engineer Mobile No. 96747 33364 Email: cme@kolkataporttrust.gov.in	2. Mr. Sourav Mitra Dy. Chief Mechanical Engineer-II Mobile No. 96747 20040 Email: souravmitra@kolkataporttrust.gov.in
1. Mr. Somnath Bandopadhyay Chief Mechanical Engineer Mobile No. 96747 33364 Email: cme@kolkataporttrust.gov.in	2. Mr. Sourav Mitra Dy. Chief Mechanical Engineer-II Mobile No. 96747 20040 Email: souravmitra@kolkataporttrust.gov.in		
5.	All notices / corrigendum and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by KoPT. Hence, the bidders are required to ensure that their corporate email I.D. provided is valid and updated at the stage of registration of vendor with NIC's CPP portal (i.e. Service Provider). Bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).		
6.	E-tender cannot be accessed after the due date and time mentioned in NIT.		
7.	(a). MSMEs registered with NSIC under Single Point Registration scheme / DIC are exempted from depositing Tender Fee and Earnest Money. But all the NSIC / DIC registered firms are not exempted from depositing Tender Fee and Earnest Money. Only those firms, having documents of such exemption for the entire tendered work (as per the Bill of Quantity) would be exempted. Documentary evidence must be uploaded for claim of such exemption, failing which their tender would be summarily be rejected. (b). The process involves Electronic Bidding for submission of Tender Document Fee and EMD, Techno- Commercial Bid as well as Price Bid. (c). The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above. (d). All electronic bids submitted during the e-tender process shall be legally binding on the bidder. Any bid will be considered as valid bid if it fulfils all the terms and conditions of the Tender Document. (e). It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system. (f). KoPT 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. (g). No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms and conditions for the tender.		
8.	The e-tender shall be governed by the terms and conditions mentioned therein.		
9.	No deviation to the technical and commercial terms & conditions are allowed.		

10.	KoPT has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.
11.	The bidders <u>must upload</u> all the documents required as per Pre-qualification criteria and the documents enlisted under techno-commercial bid and Price-bid, failing which the tender shall lead to disqualification. Any other document uploaded which is not required as per the terms of the NIT shall not be considered.
12.	The bid will be evaluated based on the filled-in technical and commercial formats uploaded.
13.	The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders.
14	Price bid must be filled-up in EXCEL Sheet through CPP PORTAL (which is uploaded by KoPT).
15	EMD & Tender Fee should reach this office physically before opening of Tender document, failing which techno-commercial bid will not be opened.
16	EMD , Tender Fee, Statements of Turnover as mentioned and work credential details are to be treated as essential documents and should be uploaded with the other essential documents and would not be sought afterwards

Terms and Conditions of Tender

Notice Inviting Tender No.: KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

Pre-qualification Criteria of the Bidders

The intending Tenderers shall satisfy the following conditions with supporting documents:

i) The firms must have average annual financial turnover during the last three years ending 31.03.2019 should be at least Rs. 1,22,76,043/- (30% of estimated value). Audited Balance Sheets as well as 'Profit & Loss Accounts' for the last three financial years ending 31.03.2019 have to be submitted. In the event of non availability of Audited Balance Sheets for the financial year ending 31.03.2019, the turn over for that financial year has to be submitted in lieu, duly certified by Chartered Accountant mentioning UDIN .

ii) The firms must have either of the following as experience of having successfully completed similar works during last seven years, ending on 31.07.2019

a) Three similar completed works each costing not less than Rs. 1,63,68,057/- (40% of the estimated value).

Or

b) Two similar completed works each costing not less than Rs. 2,04,60,072/- (50% of the estimated value).

Or

c) One similar completed work costing not less than Rs. 3,27,36,114/- (80% of the estimated value).

Here "similar works" means "**Supply, Installation and Commissioning of High Mast Lighting Tower with luminaries,**" Work experience as a subcontractor or supply contractor shall not be considered as requisite qualification. The Tenderer shall have to upload documents (certified copy), viz. order letter and proof of execution to establish his credentials.

OTHER INSTRUCTION:

1. **Tender Fee and Earnest Money or NSIC/ DIC Certificate, if applicable, are to be uploaded and must be physically submitted to the Chief Mechanical Engineer, Mechanical and Electrical Engineering Department, Kolkata Port Trust, 8, Garden Reach Road, Kolkata -700 043, failing which techno-commercial bid will not be opened. Details of which are as under:**

(a) Demand Draft/Pay Order/ Banker's Cheque from any Scheduled/ Nationalized Bank in original, for **Rs. 2,950/- (Rupees Two Thousand Nine Hundred Fifty Only)** as cost of Tender Document.

(b) Demand Draft/Pay Order/ Banker's Cheque from any Scheduled/ Nationalized Bank in original, for **Rs. 8,18,403/- (Rupees Eight Lakh Eighteen Thousand Four Hundred and Three Only)** as Earnest Money Deposit.

(c) NSIC Certificate in case of Micro and Small Enterprises (MSEs) registered with NSIC (under single point Registration Scheme) having valid certificate.

2. In addition to above as mentioned in Sl.No.1, following documents are to be **UPLOADED**:

(i) Last three years balance sheet and profit & loss account in support of Annual Financial turnover (i.e. **2016-2017, 2017-18, 2018-19**), and the same should be audited as per relevant norms wherever required. Certificate issued by concerned Chartered Accountant on or after 01.02.2019 must incorporate UDIN (Unique Document Identification Number). In the event of non-availability of Audited Balance Sheets for the financial year ending 31.03.2019, the turn over for that financial year has to be submitted in lieu, duly certified by Chartered Accountant mentioning UDIN.

(ii) Self attested documentary evidence of successful completion of similar work as proof of fulfilling the Pre-qualification Criteria of the tender.

(iii) Copy of self-attested valid GST Registration Certificate.

(iv) Copy of self-attested ESI registration certificate, **OR** an affidavit before a first class judicial magistrate as per the format given in **Annexure-G** (in case the Tenderer is not covered under ESI Act or exempted from it). The tenderers, if not covered under ESI Act, shall, additionally, indemnify KoPT against all damages and accidents to his labourer in a non-judicial stamp paper as per the format given in **Annexure-H**. The contractors should declare and state in the averment in the Affidavit and in the indemnity bond that in case such declaration will be found wrong and false, they will be held responsible for all consequences in respect of compliance of **The Employees State Insurance Act 1948**.

(v) Certified copy of **valid Trade License and Electrical Contractor's License**.

(vi) Copy of self-attested PAN Card of the firm / company issued from Income Tax Department.

(vii) Statement to confirm the status of the Tenderer – whether a Partnership Firm, Company or Proprietorship Firm. If demanded by KoPT, the tenderer would be bound to furnish necessary documents in support of their statement in this regard.

(viii) Copy of valid Professional Tax clearance / Up-to-date Profession Tax Payment challans (if applicable) / else document in support of exemption.

(ix) Proof of possessing valid Employees' Provident Fund (EPF) Account/ PF Registration Certificate.

(x) A separate statement of the tenderer containing full name and office address of the Tenderer, names and designation of the officials of the Tenderer connected with the instant Tender, their land and mobile telephone nos., e-mail id and Fax No. etc. as per enclosed **Proforma (Form-D)**.

(xi) Declaration of the tenderer in the form of a **COVERING LETTER** with certain undertaking and also that they or their associates have not been banned or delisted by any Govt. or Quasi-Govt. agencies or PSUs in India as per enclosed Proforma.

(xii) Details of the firm as per '**Schedule-O**' of the tender document.

(xiv) A declaration has to be furnished by the tenderer stating (undertaking) that the entire tender document, GCC and addenda has fully been read and understood (**Annexure -I**).

N. B.-1: The bidder will have to produce the original documents or any additional documents, if asked for, to satisfy the Authorities for clarification of his documents or credibility.

N.B.-2: Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements and **their EMD will be forfeited for such action.**

3. All the document as mentioned here-in-before shall have to be UPLOADED failing which the related offer will be liable to be cancelled. The tenderer should clearly understand that no information/indication as to price should be entered in the page of "Bill of Quantities" or elsewhere in the Techno-commercial Bid. Indication of price anywhere in any manner in the Techno-commercial part of the tender would lead to rejection of the offer.

4. Please note that there is no provision to take-out the list of parties downloading the tender document from the website mentioned in NIT. As such bidders are requested to see the website once again before the due date of tender opening to ensure that they have not missed any CORRIGENDUM uploaded against the said tender after downloading the tender document. The responsibility of downloading the related CORRIGENDUM, if any, will be that of downloading parties.

Tenderers may note that non-submission of any of the aforesaid documents/non-fulfilment of any of the aforesaid criteria shall lead to disqualification of their offers. No alteration shall be made by the Tenderer in the tender and the tender must be in accordance with the specification. Non conformation to this instruction shall be treated as non-responsive& hence may disqualify the tender.

5. Techno-commercial bids will be opened on the schedule date of opening of techno-commercial bid. Price Bids of only techno commercially qualified bidders shall be opened on a suitable date, to be intimated beforehand.

6. The Trustees reserve the right to accept or reject the tender without assigning any reason whatsoever.

7. The Trustees will not be responsible for any cost or expense incurred by the Tenderer in connection with preparation or submission of the tenders.
8. In case of unscheduled holiday, Strike/Bandh etc. on the scheduled date of Site Inspection, Pre-bid Meeting, submission of bids, opening of Techno-commercial or Price Bid, the same time (as per the schedule) on the next working day will be considered as scheduled time for the purpose of Site Inspection, Pre-bid meeting, submission of bids, opening of Techno-commercial or Price Bid, as the case may be. Here, Trustees' working day means Monday to Friday in between 9-30 hrs. to 17-30hrs.
9. Should there be any doubt or ambiguity as to the meaning of any portion of the tender document or if any further information is required, the same shall be clarified/amended by KoPT in the Site Inspection and Pre-bid meeting. No excuse of ignorance in this regard shall be accepted at a later date after the Pre-bid meeting. In the event of making any important clarification or amendment of terms of the tender, pursuant to the discussion in the Pre-bid meeting, the same shall be immediately hoisted in KoPT's website for information of all concerned and the same shall form a part of the Tender Document. Any offer having deviation from KoPT's terms and conditions shall render such offer unacceptable to KoPT. No alteration shall be made by the Tenderer in the tender document and the offer must be in accordance with the terms and conditions of the tender. The prospective tenderers may inspect the site prior to the date of Site Inspection and Pre-bid meeting in order to make themselves fully aware of the work, site and scope of work as mentioned in the Bill of Quantity as per tender. For attending the Pre-bid Meeting, the representatives of the tenderers should accompany proper authorizations letters from their respective organizations.
10. The quoted rate should be exclusive of GST. The rate quoted in the tender shall hold good and shall be binding on the tenderer notwithstanding any increase in the prices of the materials and labour or in the freights or levy or other charges whatsoever and the tenderers shall not be entitled to claim any increase over the rates quoted by them during the pendency of the contract.
11. **Validity of offer:** The quoted rates would be kept valid for **120 days** from the date of opening of the Techno-commercial Bid. If before expiry of this validity period, the Bidder amends his quoted rates or tender, making them unacceptable to the Trustees and / or withdraws his e-tender, the Earnest Money deposited shall to be forfeited.
12. The tenderers shall distinctly understand that they will be strictly required to conform to all the terms of the tender and the plea of custom prevailing will not in any case be accepted as an excuse on their part for infringing of any of the conditions and they shall refrain from sending revised or amended quotations, after the closing date and time of the tender.

13. Evaluation criteria:

(i) During evaluation of Price Bid, provided that the bidder submits his offer following e-tender stipulations & specifications, the overall lowest offer received shall be considered for acceptance by the Trustees.

(ii) The price offer should be exclusive of GST. GST will be paid extra at applicable rates at the time of supply of goods and services.

14. If excess work is required to be carried out in addition to the quantities stipulated in BOQ, the amount will be paid on par with the quoted offer and as per actual measurement. In case of extra work, the same will be paid as per rate of PWD schedule/ rate of reputed manufacturer /market rate with justification of rates as the case may be.

15. The contract document shall be drawn in English language only.

16. The contract shall be governed by all relevant Indian Acts as applicable only within the jurisdiction of High Court of Kolkata, West Bengal, India including the Acts like The Indian Contract Act, The Major Port Trusts Act, The Workmen's Compensation Act, The Minimum Wages Act, The Contract Labour (Regulation & Abolition) Act, The Dock Worker's Act, The Indian Arbitration & Conciliation Act, The Dock Safety Regulations, Act(s) or any other act, law, rule as may be applicable. Payment to the labourers to be made as per the minimum wage rate fixed by Chief Labour Commissioner (Central) and as per M.W.A. Govt. of W.B. whichever is higher and revision from time to time along with EPF /ESI and other statutory benefits, if applicable.

It will be the duty of the contractor to abide by the provisions of the Act, Ordinances, Rules, Regulations, By-laws and procedures as are lawfully necessary in the execution of the works. The contractor will be fully responsible for any delay / damages etc. and keep the Engineer indemnified against all penalties and liabilities of any kind of noncompliance or infringement of such Acts, Ordinances, Rules, Regulations, By-laws and procedures.

The aforesaid regulations shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a Breach of Contract. It will be obligatory on the part of Contractor to obtain necessary Labour License from the Competent Authority for deploying requisite nos. of labours in the work and submit the Engineer-In-Charge prior to commencement of the work.

The contractor shall also be required to comply regarding 'Workmen Compensation Act, 1923 as amended by Amendment Act No. 65 of 1976' In addition to the above, the Personal Injuries (Compensation Insurance) Act, 1963 and any modifications thereof and rules made there under from time to time. The contractor shall take into account all the above said financial liabilities in his quoted rates and nothing extra, whatsoever, shall be payable to him on this account.

Special Conditions of Contract

Notice Inviting Tender No.: KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

1. The Tenderer shall carefully examine the whole tender document and shall visit and inspect the site on his own, obtain all information, which may be necessary for the purpose of the tender/offer. The Tenderer is advised to acquaint himself with the job involved at the site, laws and by-laws enforced by the Govt. and other statutory bodies. No excuse of ignorance as to site condition and local information will be accepted. All costs/charges/expenses that may be incurred by the Tenderer in connection with the preparation of his tender shall be borne by the Tenderer and KoPT accepts no liability in this regard.
2. Disclosure/indication of price in Techno-commercial part of the tender shall be liable to be disqualified.
3. Any quotation received for part supply or of doing a portion of the work with responsibility for carrying out remaining works by the Trustees, will not be considered.
4. No alteration shall be made by the Tenderer in the tender and the tender must be in accordance with the specification. Non conformation to this instruction shall be treated as non-responsive & hence may disqualify the tender.
5. The contract shall be governed by the Indian Contract Act and all payments due to the Contractor under the Contract shall be made in India in Rupee Currency only. No foreign exchange is payable on this contract.
6. The Contractor shall take adequate insurance cover for persons to be deployed for execution of this contract. The Contractor shall at his own expenses pay compensation for any injury, loss or reinstate and make good to the satisfaction of KoPT for loss or damage accrued to any property or rights of KoPT whatever, including KoPT's agents/ servants/ employees, or any third party arising out of or in any way in connection with the execution or purported execution of the contract and further the contractor shall indemnify KoPT against all claims enforceable against KoPT (or agents/servants/employees of KoPT) or which would be so enforceable against KoPT where KoPT is a private person, in respect of any such injury (including injury resulting to death), loss or damage to any person whomsoever or property including all claims which may arise under the Workmen's Compensation Act or otherwise.
7. Attention of the tenderer is drawn to **clause no 3.4, 3.5, 3.6 of GCC regarding earnest money & security deposit** and **clause no.8 of GCC regarding delay/extension of time/LD/ Termination of contract**.

8. The tender shall remain valid for acceptance for a period of 120 days from the date of opening the Techno-commercial Bid. In the event of tenderer withdrawing their tender before the expiry of tender validity period of 120 days from the date of opening of the Techno-commercial Bid, the offer of such tenderer shall be cancelled and EMD deposited by them shall be forfeited. If tender process could not be finalized within 90 days, the EMD's to be revalidated accordingly.
9. Successful Tenderer shall be in all cases responsible for the execution of the work in accordance with the General Conditions of Contract. Specifications, Drawings if any, and the Bill of Quantities which the tenderer shall be deemed to have examined.
10. KoPT reserves the right to disqualify any offer, in case they are satisfied that any bribe/commission, gift or advantage has been given, promised or offered by or on behalf of any of the Tenderers to any officer, employee or representative of KoPT or any other person on his or their behalf in relation to the acceptance of this tender.
11. The Tenderer shall disclose the names of their Partners /Directors/ Members in the manner stipulated in this tender document. Any change in the composition of the same during subsequent stage of tender finalization as well as during the period of execution of the contract shall be immediately notified in writing to KoPT. In the event of any Tenderer failing to comply with the aforesaid requirement, the tender/ contract, if entered into, may be terminated.
12. At any time, prior to the last date of submission of Tenders, KoPT reserves the right to amend and modify the Tender Document. Such amendment shall be hoisted in CPP Portal as well as in KoPT's Portal and KoPT would in no way be responsible for any likely ignorance of any prospective Tenderer in this regard. Such amendment/ modification shall form part of the Tender and shall be binding upon all the Tenderers. KoPT may, at its discretion, alter any of the major dates like pre-bid meeting, last date of submission and date of opening of the Tender etc. to enable the Tenderer(s) to have reasonable time to submit their offer after taking into consideration such amendment/ modification.
13. The Tenderer should note that the plea of custom prevailing will not in any case be admitted as an excuse on their part for infringing any of the conditions of the tender.
14. The Contract shall be governed by all the acts as listed under Clause No. 4.1 of the General Conditions of Contract and also by all other relevant Acts/Laws/ Regulations/By-laws/Statutory Requirements including Dock Safety Regulations as may be in vogue as well as any amendment thereof, if any, in executing the tender and during the pendency of the contract. It will be the sole responsibility of the Contractor to comply with the same.
15. While submitting tender, the conditions of tender, the general conditions of contract and specifications, drawings etc. shall be read in conjunction with the bill of quantities.
16. **Completion time:** Two Hundred and Forty Days (240) days from the date of placement of order letter.

17. The tenderer/s shall not rely merely on the descriptions given on the bill of quantities. The quantities shown on the bill of quantities are approximate only and the actual quantities will be intimated when formal order will be placed. If when preparing the tender documents, the tenderer feels that any essential item has been omitted from the bill of quantities the prices of which cannot be conveniently included under any other item, the tenderer shall request the Engineer to insert a suitable item at the time of Pre-bid meeting. Should the tenderer omit to mention the price of any item in the bill of quantities, the tender may be treated as cancelled.

18. The tenderer/s shall distinctly understand:

A. that they will be strictly required to conform to the General Conditions of Contract and Specification as contained in each of its clause.

B. Non-acceptance/or non-compliance of any of the above terms and conditions may render the tenders liable to rejection.

Tenderer/s shall also sign every page of the tender documents in token acceptance thereof.

19. **Warranty/Defect Liability Period:** The contractor shall make good at his own expenses of all defects, due to faulty design, materials and workmanship, which may develop under proper use during a period of 12 months from the date of commissioning / handing over of the work. Should any difference of opinion arise on any of the provisions of this clause, the decision of the Engineer shall be final and binding. In default, the Trustees will be at liberty to get the repairs done and reimbursed themselves so far as costs therefore are concerned out of the amount lying with them as security deposit so far as that is practicable. If the costs of such repairs exceeding the amount of security deposit, the Contractor shall pay the balance to the Trustees forthwith on demand. Where the Contractor has submitted bank guarantee in lieu of cash security money, the cost of such repairs will be payable to the Trustees forthwith on demand.

20. **Safety:** The Contractor shall take adequate safety precautions for prevention of accidents at site. The Contractor shall ensure that his employees observe the statutory safety rules and regulations.

21. **Entry Permit:** The Contractor shall be governed by the following provisions for interfacing safety custody and proper use of Dock Permits :

A. **All** representatives and workers of the contractor shall possess the Dock Permit issued by Dock Permit Office at the recommendation of concerned officer/Engineer on monthly or daily basis, free of cost. A token charge of Rs. 7.00 per person per occasion will be levied for creation of new IDs in the permit system. A separate receipt indicating the details of the ID along with the amount charged will be issued which may be kept for future reference.

B. **The** Contractor shall ensure that any Dock Permit issued to their workmen or representative by the Permit Office are not misused by un-authorized persons for entry into the protected dock area.

C. **It** shall amount to breach of rules and regulations regarding entry into the prohibited area by the Contractor in case the Dock Permit issued at their request are found to be misused by any authority/person.

- D. **Contractor** and their workmen including driver & helper must use PPE i.e. safety helmet, safety shoe etc. at the time of work inside the dock premises.
- E. **The Contractor** and their defaulting employees shall be liable for legal action against them for breach of rules regarding entry into the protected area.

- 22. **Permission from statutory bodies:** The Contractor shall make arrangement from his own cost for obtaining permission and relevant clearance from the statutory bodies such as Municipal Corporation, Electricity Authorities etc. on payment of necessary charges/fees etc. by the bidder.
- 23. **Drawings:** On completion of all work, the Contractor shall furnish three copies of all “As made” drawings including cable route diagram to the Engineer without any cost.
- 24. **Specifications/ Codes and Standards:** All works under this contract will be executed according to the Trustees’ Specification for works. Whenever the details are not specifically covered in the specifications, relevant provisions in the latest revision and/ or replacements of the Indian Standard Specifications (IS) or any other International Code of Practice/ CPWD specifications will be followed. The Contractor shall have to procure copies of such codes/ standards for ready reference of his own personnel as well as the Engineer or his representative at site at his own cost and without any additional reimbursement.
- 25. **Testing and commissioning:** Before each test, the Contractor shall obtain permission from the Engineer and all tests shall be conducted in presence of duly authorized representative and the Electrical Inspector wherever it is necessary. Record of each test shall be prepared after the test and this record shall be signed by the Contractor’s representative conducting the test. Copies of those records in quadruplicate shall be submitted to the Engineer. A certificate in quadruplicate shall be furnished by the Contractor countersigned by his certified Supervisor under whose direct supervision the installation has been carried out. The Testing & Commissioning and its related charges are to be borne by the Contractor at his own cost.
- 26. **Identification mark:** For identification of various equipment letter/figure writing of sizes varying from 12 mm. to 75 mm. with enamel paint of approved shade /standard ferules are to be carried out at the expenses of the contractor as per directive of Engineer.
- 27. The tenderer must produce evidence with his tender that he and his proposed sub-contractors have had experience and fully capable of carrying out work of this class and magnitude and by way of proof shall submit along with his tender under ‘**Schedule-O**’ a list of important works of a similar nature successfully carried out by him giving the dates of commencement and completion of such works and full particulars of his business organization.
- 28. **Cleaning during execution and after completion:**
Any damage done to the structures during execution of work should be made good by the contractor at his own cost. On completion of works, the contractor shall reinstate and make good at his own expense any property or land which might have been disturbed and/or damaged by his

works. He should also clean the site as required during execution and fully clear the site after completion of all the works.

The contractor shall forward any usable material found during the course of construction at the work site or its vicinity to KoPT store/yard, dispose of the debris beyond the port area all at his own expenses by his own transport and labour and clean out all part of the work and leave everything clean and tidy to the entire satisfaction of the Engineer.

28. Protection of existing service:

The contractor must pay full attention to the fact that the existing service facilities for KoPT are not disturbed at any time due to storing of materials and rubbish and take every precaution to keep the entrance passage clear is the same are being used by the labourer. The contractor shall be held liable for all damage and inference to the existing service/structures caused by him in execution of works. Should any damage be done to the existing service/structures in general, the contractor shall make good the same and any further work considered necessary by the Engineer's representative without any delay otherwise the cost of such repairing shall be recovered from his running account bill for which Engineer's decision shall be final & binding.

29. **Safety Measures:** The contractor shall adhere to safe construction practice, guard against hazardous and unsafe working conditions and follow all safety precautions for prevention of injury or accidents and safeguarding life and property. The contractor shall comply with relevant provisions of Dock Workers (Safety, Health and Welfare) Act – 1986 and Dock Workers (Safety, Health and Welfare) Regulation – 1990 and Safety Officer of the Trustees or Safety Inspectors shall be afforded all facilities for inspection of the works, tools, plant, machineries, equipment etc. wherever so required. The contractor shall further comply with any instruction issued by the Engineer, Trustees' Safety Officer, Safety Inspector in regards to safety which may relate to temporary, enabling or permanent works, working of tools, plants, machineries, equipment, means of access or any other aspect.

The contractor shall provide all necessary first aid measures, rescue and lifesaving equipment to be available in proper condition. The contractor shall provide PPE's (Personal Protective Equipment) such as, helmet, safety shoe etc. to all workers and shall also provide job specific PPE's e.g. safety belts for working at heights; protective face and eye shield, goggles, hand gloves for welding / gas cutting works; protective foot wear and gloves for hot works; facemasks, gloves and overalls for painting works, mixing and handling materials etc., as directed by the Engineer.

All safety rules shall be strictly followed while working on live electrical systems or installations as stipulated in the relevant safety codes. Use of hoisting machines and tackles including their attachments, construction tools, machineries and equipment shall comply with the relevant safety codes. Before allowing workers in sewers, manholes, any duct or covered channel etc, the manhole covers shall have to be kept open and ventilated at least one hour in advance and necessary safety torches / lamps should be inserted first before allowing entry to the worker. Suitable hand gloves and other safety gear will be provided to the worker during handling / removing of slushes / sludge etc. without any extra cost. The contractor shall adopt all the above safety measures at his own cost.

The successful bidder shall also ensure that:

- (i) No damage is caused to plants and vegetation 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 throughout the period of their use and different effluents of the labour hutment shall have to be disposed of suitably.

30. Forwarding of Materials:

All dismantled unserviceable materials are to be disposed of beyond the office compound and in conformity with the Municipal/corporation Rule at the contractor's own cost. The contractor shall have to arrange transport for forwarding the saleable/ unusable/ defective/ usable materials that may be found during the process of execution of the work to the Trustees sales yard or any other site/ Godown including labour, transportations, loading, unloading all complete as per the direction of the Engineer.

- 31. Kolkata Port Trust will issue necessary permits/ photo permits free of costs for all the personnel of the contractor or his sub-contractor who will be involved in the tendered work. On closure of the contract, all these permits shall have to be returned before finalization of the pending bills/dues.
- 32. The Contractor shall arrange all necessary tools, tackles, equipment, measuring & testing equipment etc. required for the repair & maintenance work at no extra cost to Kolkata Port Trust.
- 33. The contractor shall start the work on "As-is-where-is" basis of the electrical installations.
- 34. The Contractor shall arrange the services, if any, required from indigenous/ foreign companies at no extra cost to Kolkata Port Trust.
- 35. Kolkata Port Trust will provide general security of the entire working area. Kolkata Port Trust is covered by ISPS (International Ship and Port Facilities Security) code and the contractor shall have to arrange for further security of their stock etc., if considered necessary and related coverage at his cost in terms of ISPS code.
- 36. The stores/equipment/plant/machineries shall strictly conform to the tender specifications and shall be capable of satisfactorily performing the duties intended for in the specification.
- 37. Electricity will be provided free of cost from nearest available source for carrying out the works, if necessary. Water and Toilet facility, as available within the premises, shall be extended to the Contractor's men free of cost.
- 38. The contractor or his employees shall not use the premises allotted to him for any purpose other than for carrying out the work allotted as per the contract and shall not act in any manner as to

cause any nuisance or annoyance to KoPT or the participants /visitors at the port. **The firm/contractor shall not allow or permit employees to participate in any unlawful activities, in and around the premises of KoPT.**

39. The contractor shall have to arrange at his own cost for all necessary insurance coverage for men and materials to be used this contract.
40. Kolkata Port Trust and the contractor will nominate a number of officers with their contact nos. indicating the chain of command at the field level who will operate within the terms of the contract to ensure minimum interruption, smooth functioning and optimum utilization of the electrical installations and the related distribution system.
41. The contractor shall conform to all the formalities as laid down in the Contract Labour (Regulation and Abolition) Act, 1970 and rules framed there under in vogue and subsequent amendments, if any, while executing the contractual works.
42. The Contractor shall supply, bound into suitable folder two sets of operating and maintenance & fault finding manual for use by the Engineer with three sets of complete general lay out, assembly drawings and illustrated spare parts catalogue for the stores/ plant/equipment/ item.
- 43. Security Deposit will be guided by clause. 3.4, 3.5 & 3.6 of the GCC, Forms & Agreement of the tender document.**
44. **Dock Safety Regulations** shall be applicable for the work. All Dock Safety Regulations in vogue and as amended from time to time shall have to be satisfied.
45. Contractor shall have to arrange further security for their equipment/office/stores etc. at their own cost and responsibility.
46. All equipment covered under this tender must be available from indigenous sources and the tenderer/s shall confirm that spares will be available freely at least for a period of 5 years from the date of commissioning. No foreign exchange will be made available.
47. The tenderer/s shall submit manufacturers Test Certificates for all the bought-out items envisaged in the equipment.
48. An agreement shall have to be executed at the expense of the contractor within 15 days from the date of issuance of Order letter by successful tenderer on a non-judicial stamp paper of at least Rs. 60/- as per format enclosed with the General Conditions of Contract. All correspondence between the contractor and KoPT and all documents to be submitted from the date of opening of tender till the submission of the Security Deposit should form part of the contract agreement.

49. For erection, if applicable, of the stores/ plant/ equipment/ machineries/ item, all connected work including grouting bolts, Base frame and Bed plate etc. shall be provided by tenderer. During erection all tools and tackles are to be provided by Tenderer. Tenderer should guard all equipment, etc. at site by his own men at his own cost. However, only space for keeping the materials for execution of the work may be provided by Kolkata Port Trust on free of cost basis.
50. The firm /contractor shall at all times, during the continuance of agreement, obey and observe all direction and instruction given by the Engineer or his authorized officials.
51. The contract may be terminated at one month's notice by KoPT if any one of the stipulated conditions agreed upon by the selected bidder is not met to the satisfaction of KoPT. Further, the contract shall stand terminated automatically after completion of the work.
52. The responsibility in respect of the antecedents/Credentials of the persons engaged by the contractor rest with the contractor.
53. The staff provided by the contractor to KoPT are in case found to be indulging in any undesirable or unfair activities in the premises of KoPT, the contractor will solely be responsible for all the consequences apart from the liberty of KoPT office to lodge complaints before appropriate authorities.
54. The tenderer/s shall afford all facilities to the Engineer at their own arrangement for inspection and demonstration of the equipment, quoted for.
55. The tenderer shall along with the tender submit the detailed description of the equipment quoted for and enumerate the aspect of operation and maintenance facilities and shall enclose necessary literature.
56. The equipment shall be supplied and delivered at the specified site at your own cost.
57. All payments like refund of Earnest Money, Security Deposit and all bills of contractors' will be paid through ECS. For this purpose, following details are to be furnished by the tenderer:
- i. Name of the bank :
 - ii. Name of the Branch with Code No. :
 - iii. Bank account no. :
 - iv. Type of account : Saving/Current/Cash Credit
 - v. MICR No :
 - vi. IFSC Code :

The account shall have to be with a bank within the ECS zone prescribed by the RBI.

60. The tenderer/s have to fill in the Technical Data. The successful tenderer shall have to supply materials and execute the work as per Technical Data offered by them.

61. All materials are to be supplied progressively as required at site subject to prior approval of Engineer or his representative.
62. During course of examination of Part-I of the Bid, the bidders if asked for shall furnish any or additional documents for the purpose of evaluation of his / their bids. The price bids i.e. part-II of those bidders who meet the qualifying criteria of the NIT shall be opened.

63. Priority of Contract Documents:

The several documents forming the Contract are to be taken as mutually explanatory to one another, but in case of ambiguity or discrepancies, the same shall be explained and adjudicated by the Engineer of the Contract (EoC), who shall thereupon issue to the Contractor instructions thereon which will be final and binding on the Contractor. Unless otherwise provided in the Contract, if the stipulations in the various documents forming a part of the Contract are found to be in variation in any respect then, unless a different intention appears, the provision(s) of one will override others (but only to the extent these are at variance) in order of precedence as given in the list below i.e. a particular item in the list will take precedence over all those placed lower down the list:

The following documents of the Contract Agreement will be in the following sequence:

- a) Letter of Intent (LoI) / Work Order
 - b) Special Conditions of Contract
 - c) Scope of work and Terms of Payment
 - d) Bill of Quantities
 - e) Instructions to the Tenderer
 - f) General Conditions of Contract
 - g) Any other document(s) forming part of the Contract.
64. **Custodian Certificate:** After delivery at site the supplied materials are to be verified by KoPT Officials and the custodian certificate is to be issued by the Contractor in this regard for consumption of such materials in the instant work.
65. **Termination of contract and Risk Purchase Clause:** Will be applicable as per **clause No. 8** of KoPT's General Conditions of Contract.
66. **Special / Additional Security** may be arranged by the contractor at the site at no extra cost to KoPT over and above the General Security provided within KoPT premises by Port Security Authority.
67. 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 Engineer, Kolkata Port Trust, thereon shall be final and binding upon all parties.

68. All other terms and conditions excepting those mentioned separately shall be governed by KoPT's General Condition of Contract.

69. **Conduct:** If a bidder has had previous history of “**defined misconduct**”(such as banning from/ by any government sector, premature termination of a contract solely on bidder's fault, criminal case pending against the company or its owner/ current director filed by a government entity etc.), his offer is liable to be ignored.

70. Whenever instances of submission of fraudulent/misleading document(s) are detected by the Port Authorities, appropriate penal action will be unleashed. It must be realised that submission of fraudulent/forged document(s) to a Government department is not only a Civil/contractual offence, but might attract Criminal Culpability under Indian Penal Code. Competent Authority will take Range of punitive actions as per guidelines in case of detection of such fraud/forgery/deliberate misrepresentation of documents during the bidding process or afterwards.

71. TERMS OF PAYMENT:

i) Supply items:

- a) 60% payment against supply and delivery of materials / equipment / machineries / items on production of proper purchase documents / challans at site together with required Test Certificates etc. from appropriate authorities including inspection certificate of KoPT's representative, as applicable and on submission of Custodian Certificate.
- b) 30% payment against installation and commissioning.
- c) 10% payment against testing and handing over of the entire work after completion of work as per NIT.

ii) Installation and Commissioning:

- a) 90% payment against installation and commissioning.
- b) 10% payment against testing and handing over of the entire work after completion work as per NIT.

Any defect and /or deficiency in the equipment supplied shall have to be made good by the contractor before any bill is passed for payment. Payment will be made subject to **security deposit clause no. 3.4, 3.5 & 9 of GCC**. Payment will be made on the basis of actual measurement.

72. **Taxes & Duties:** The rate quoted by the tenderer should be considered to complete the work in all respect and should be exclusive of GST. GST will be paid extra at applicable rates at the time of supply of goods and services.

Relevant GST Clause:

- I. Supplier/Service Provider to confirm that the GST amount charged in Invoice is declared in its returns and payment of taxes is also made.
- II. The supplier/service Provider agrees to comply with all applicable GST Laws, including GST acts, rules, regulations, procedures, circulars and interaction there under applicable in India from time to time and to ensure that such compliance is done within the time prescribed under such laws. Supplier/Service Provider should ensure accurate transaction details, as required by GST Laws are timely uploaded in GSTN. In case there is any mismatch between the uploaded in GSTN by supplier/service provider and details available with Kolkata Port Trust, then payment to supplier/service provider to the extent of GST relating to the invoice/s under mismatch may be retained from due payment till such time Kolkata Port Trust is not sure that accurate tax amount is finally reflected in the GSTN to KoPT's account and is finally available to the Kolkata Port Trust in terms of GST Laws and that the credit of GST taken by Kolkata Port Trust is not required to be reversed at a later date along with applicable interest.
- III. Kolkata Port Trust has the right to recover mandatory loss including interest and penalty suffered by it due to any non-compliance of tax law by the supplier/service provider. Any loss of input tax credit to Kolkata Port Trust for the fault of supplier shall be recovered by Kolkata Port Trust by way of adjustment inconsideration payable.
- IV. Supplementary invoices/debit note/credit note for price revision to enable Kolkata Port Trust to claim tax benefit on the same shall be issued by you for a particular year before September of the succeeding financial year.
- V. The purchase order/work order shall be void, if at any point of time you are found to be a blacklisted dealer as per GSTN rating system and further no payment shall be entertained.

73.DETAILED SCRUTINY OF E-TENDERERS:

Documents are to be uploaded:

- i. GST Registration certificate.
- ii. Valid Trade License.
- iii. Valid Professional Tax Clearance Certificate / Up to date tax payment challan (if applicable) /else document in support of exemption.
- iv. Proof of possession of valid Employees' Provident Fund (EPF) Account.
- v. Proof of being registered with Employees' State Insurance Corporation (ESIC) / Affidavit and Indemnity Bond.
- vi. Details of the firm as per '**Schedule-O**' (in Volume-I) of the tender document.
- vii. Credentials in the form of copies of Letters of Award of Works along with corresponding **Completion Certificates** from owners to justify that the intending bidder satisfies the earlier mentioned pre-qualification criteria.

- viii. Copies of balance sheet and Profit and Loss account / Trading account for the last 3 (three) financial years (**i.e. 2016-17, 2017-18, 2018-19**) and the same should be audited as per relevant norms wherever required. In the event of non-availability of Audited Balance Sheets for the financial year ending 31.03.2019, the turn over for that financial year has to be submitted in lieu, duly certified by Chartered Accountant mentioning UDIN,
- ix. Addendum / Corrigendum / Notice / Extension Notice issued and drawings (if any) duly signed by the Bidder under office seal.
- x. EMD & Cost of Tender documents / NSIC Registration certificate.
- xi. Certified copies of PAN Card.
- xii. Electrical Contractor License.
- xiii. Proforma (**Form –D**).
- xiv. Covering Letter.
- xv. Statement to confirm the status of the Tenderer – whether a Partnership Firm, Company or Proprietorship Firm. If demanded by KoPT, the tenderer would be bound to furnish necessary documents in support of their statement in this regard.
- xvi. A declaration has to be furnished by the tenderer stating (undertaking) that the entire tender document, GCC and addenda has fully been read and understood (Annexure –K).
- xvii. Checklist of Documents to be uploaded (Annexure –L)

During techno-commercial evaluation, i.e. evaluation of Part-I of tender, an offer shall be considered non-responsive in case of non-submission of the following ‘Essential’ documents or non-fulfilment of following criteria:

- i. It is not accompanied by requisite earnest money,
- ii. It is not accompanied by requisite tender paper cost,
- iii. It is not accompanied by NSIC certificate as an exemption from depositing earnest money & tender paper cost,
- iv. The validity of the offer is less than tender stipulation,
- v. It does not meet the qualification criteria as stipulated in the NIT,
- vi. The bidder submits conditional offer / impose own terms and conditions / does not accept tender conditions completely / offer or tender if submitted with any deviation from the tender terms & conditions,
- vii. If the tender is conditional.

In addition to the above, a bidder may be disqualified if:

1. All the documents required as per NIT are not uploaded or not submitted, even after asked for.
2. The bidder provides misleading or false information in the statements and documents submitted.
3. Record of unsatisfactory performance during the last seven years, such as abandoning of work or rescinding of contract for which the reasons are attributable to the non-performance of the contractor or inordinate delays in completion or financial bankruptcy, etc.

The decision of Kolkata Port Trust in this regard shall be final and binding on the Bidder.

SCOPE OF WORK**NIT No. KoPT/KDS/Mech/SE-I/ADV/537 dated 22.08.2019**

Name of the work: “Supply, Installation, Testing & Commissioning of 35 numbers High Mast Lighting Towers along with allied Electrical Installation work and Cabling work for providing illumination at different areas of NSD, KPD-I and Coal Berth Area of KPD-II, Kolkata Port Trust”.

Kolkata Port Trust intends to improve the illumination at various locations. The tentative location and number of high masts proposed at each location are as mentioned below. However, exact location of high masts may be decided in consultation with KoPT at the time of execution:

<u>Sr. No.</u>	<u>Location</u>	<u>Proposed Quantity of High mast under tender</u>
1	Alif Nagar Coal Dump Yard, NSD & 13, 14 NSD Berth	8
2	Area behind CFS, NSD	6
3	BISN area, Gate 8, 3 NSD area & KPD-I reefer park.	9
4	Coal Berth, KPD-II	12
5	Total=	35

The Scope of Work under this Tender Specification covers the following:

- a. Design, manufacture, supply, installation and commissioning of 25 meter long High Masts with all its accessories as per Technical Specification & BOQ, complete in all respect.
- b. Design and construction of R.C.C. foundation for 25 meter long High Masts as per Technical Specification & BOQ, complete in all respect.
- c. Supply and installation of lightning protection Finial.
- d. Supply, delivery and installation of LED Flood Light Luminaires with all its accessories as per Technical Specification & BOQ, complete in all respect for High Mast and Street Light Poles.
- e. Supply, delivery and installation of LED aviation obstruction lights.
- f. Supply, delivery and installation of Feeder Pillar Boxes as per specification including construction of R.C.C. foundation for the same as per Technical Specification & BOQ.
- g. Supply, delivery and installation of steel tubular Pole as per Technical Specification & BOQ.

- h. Replacement of existing 2X400W HPSV Luminaries with 400W LED Luminaries in the three Lattice Towers of KPD-I(West) & at area behind CFS [18 nos per each lattice tower]
- i. Supply , delivery , installation , Testing & Commissioning of IP65 protected **Distribution Boards in the top and middle platform of** three Lattice Towers of KPD-I(West) & in the area behind CFS
- j. Supply, delivery and installation of outdoor type loop in-loop out cable Box Technical Specification & BOQ.
- k. Supply, laying and termination of XLPE insulated, 1.1 kV grade, armoured Al Cable having size as per BOQ & Technical Specification.
- l. End Termination of different size of LT Cables with all accessories and commissioned.
- m. Construction of Earth Electrode Stations with mentioned diameter & length GI Pipes as per IS specification & Technical Specifications.
- n. Providing Rail guard around each High Mast and associated feeder pillar box by fencing as per BOQ.
- o. Preparing and submitting “As Executed” drawing.

Any work, considered required by the contractor and not mentioned hereunder, for successful completion of the project, is to be included in the item of bill of Quantity suitably which should be finalized in the pre bid meeting.

The work shall be carried out as per Indian Electricity Act, 2003, Indian Electricity Rules, 1956 with latest amendments and latest revised IS Code of Practice.

Including all appurtenant works as described and set forth in, Bill of Quantities, Special Conditions of contract, Technical Specification of works, and Specification of materials & Workmanship with all additional or varied works which may thereafter be required in Accordance with Clause 7 of General conditions of contract and as per direction of the Engineer-in-Charge.

The intending tenderer shall inspect the site of work in consultation with the Superintending Engineer (Electrical), Kolkata Port Trust and acquaint himself with the nature of Work before preparing his tender. His attention is drawn to the Conditions of Contract in this regard. No excuse on ignorance as to the site General Conditions will be entertained.

Unless otherwise specified, the work to be provided for by the contractor shall include but not be limited to the following:

- a) Provide all materials, supervision, services, scaffolding and temporary lighting as required for work purposes etc.
- b) Prepare and submit for review and assessment to the Engineer working drawings showing how the work is actually going to be done as may be required by him. 24
- c) The contractor shall carry out the work in phased manner as per availability of the site so that normal day to day activities are not affected for which no such extra payment will be entertained.

The work shall be carried out as per Indian Electricity Act, 2003, Central Electricity Authority (Measures relating to safety & electricity supply) Regulation, 2010 with latest revised IS code of Practice and relevant portion of National Building Code particularly with respect to fire safety and also code of practice for fire safety of buildings (general): Electrical Installations, IS: 1646: 1997 and code of practice for earthing IS 3043:1987 and Dock safety rule & regulation.

Danger Notice Plate (designed as per **IS: 255**) at the installation shall have to be affixed by the contractor permanently in a conspicuous position in accordance with **Indian Electricity Rules, 1956** with latest amendments at Switch Room of Container Freight Station.

The **Electrical Cable Layout Drawings, Single Line Diagram, Details drawing of LT Panels** etc. should be prepared by the Successful Tenderer and the same should be submitted to the Engineer for necessary approval, in triplicate, before installation. As built, cable layout drawings includes cable routes so laid with reference to permanent installation en-route, clearly marking position of the cable there at showing distance from such references at a suitable interval, where so available are to be provided.

The Contractor should arrange, at their own cost, all necessary tools, tackles, lifting machineries, transport etc., required for the execution of total work. They should also provide all materials, supervision, services, scaffolding and temporary lighting as required for work purpose etc.

The lengths of Cable run through existing / new duct / tray / laid pipe / underground etc. as given in the BOQ are indicative only. There may be little variation in quantity during execution of the work depending upon site conditions.

Scope of work for installation of LT Panels:

Suitable sizes of Hot Dip Galvanized Steel Base Channels/ Angles should be grouted, levelled in cement concrete foundation. A proper bonding surface should be made by cheeping the floor while making cement concreting. All the panels should be assembled, aligned and levelled. The Fixing Bolts should be grouted only after satisfying all these

requirements. After completion of the Panel erection, all cubicles, switches, CTs, Bus Bar Chambers should be cleaned and checked for tightness of all the components. All loosely supplied items shall be fitted up. All the wiring connections should also be checked with drawings and tightened. Insulators should be checked up for any possible damage. All openings should be sealed to avoid ingress of any foreign particles inside the panels.

Individual Feeder Functional Scheme verification should be carried out and if required minor wiring modification in the panel wiring, as per site requirement should be done as per the directive of the Engineer without any extra cost. Special attention is to be paid to CT Circuits Polarity, wiring continuity & correctness in the protection as well as measurement circuits.

All the control wiring, Bushings, Bus Bars, other live parts of Switch Gears, Incoming & Outgoing Cables should be meggered. The LT Panel shall be double earthed through earthing system. Supply of all materials including hardware materials, as required, is under the scope of the Contractor.

Scope of work for installation of Ceiling Fans:

Installation of ceiling fan complete with blade, electronic regulator, canopy etc. with appropriate length of MS down rod & making necessary connection. Down rod, if required shall have to be supplied by the contractor. Cost of down rod shall be included in its installation price.

TECHNICAL SPECIFICATIONS

NIT No. KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

Specifications of Energy Efficient LED Based Luminaries Unit

A. LED MANUFACTURER REQUIREMENTS:

- LED Luminaire manufacture shall have complete in house design, development, production and testing facility for manufacturing of LED luminaires.
- LED Manufacturer should have In-House NABL Accredited Photometry Laboratory.
- LED Manufacturer shall have company service network in Kolkata, India to ensure response time is two working days.
- LED Manufacturer shall be associated with LED Chip manufacturer for more than two year and shall have confirmation on Luminaire and Drivers design with LEDs for their performance from LED Manufacturer.
- The manufacturer of LED Luminaries should be an ISO 9000:2008/ ISO 9001:2015, ISO 14001:2015 and BS OHSAS 18001:2007 certified organization.
- LED Manufacturer should have separate valid BIS registration number for both luminaries and driver. Driver should have the registration of BIS of the OEM of driver manufacturer.

B. ENVIRONMENT WITH FACILITIES FOR ASSEMBLY OF LED

MODULES AND PCBs:

- Automatic Pick and Place machine for LEDs and electronic components.
- Temperature controlled automatic wave soldering machine with auto fluxing facility for through hole devices
- Automatic temperature controlled re-flow soldering machine for surface mounted devices.
- Heat / Humidity chamber having minimum range of 0-50°C with alternate arrangement of standby power supply for carrying out endurance tests.
- Electronic driver testing meter with programmable Input Supply to vary input

voltage. Meter shall be able to report input parameters like wattage, PF, THD, Input Current and Output Voltage, Output Current etc.

- Integrating sphere for LM 79 / IS 16106:2012 testing of CCT & CRI.
- Mirror Type Gonio-Photometer for LM79 / IS16106:2012 testing for Photometric & Electrical parameters.
- Ingress Protection Testing Facility for testing of outdoor products with rating up to IP66 with Dust and Rain Jet Chamber.
- Impact testing facility.

C. LED FLOOD LIGHT LUMINARIES SPECIFICATIONS:

a. LED:

- i. LED Chip Efficacy shall not be less than 140 Lumen/watt and System Efficacy shall be greater than 100 Lumens/Watt @ 350 mA drive current. In respect of LEDs of higher power ratings, drive current greater than 350 mA can be accepted if the LED's LM 80/IS: 16105 test reports support the same.
- ii. System Lumen Output: Min 40000 for 400 watt flood light luminaries.
Min 30000 for 300 watt flood light luminaries.
Min 15000 for 150/160 watt flood light luminaries.
- iii. Luminaire system wattage: As per BOQ. It may vary up to +/- 5% as per IS 16107 but shall deliver rated lumen output as declared in the specification. Test Report for Ambient Temperature of 55, 85, 105 Deg. C at rated and maximum current shall be submitted for SMD Type LED.
- iv. LED used should be of SMD (Surface Mounted Device) type or COB (Chips On Board) only. However COB type LED will not be considered only for luminaries for 400W
- v. LM – 80/IS: 16105 Test Reports of specific LED at the soldering point temperature of 85 deg. C for the driving current at which the LEDs shall be driven, shall be submitted along with the material (for SMD type only).
- vi. Rated Minimum life span of LEDs (L70B50) used in the Luminary shall be greater than 50,000 Hrs. at the soldering point temperature of 85 deg. C & at the luminary driving current. TM-21 life projection calculation along with LM80 for all three ambient temperature of 55, 85, 105 Deg. C as per applicable standard shall be submitted to substantiate that the life of LED Chip (L70B50) shall be more than 50000 burning hours.
- vii. The LEDs shall comply with Photo biological safety norms as per IEC 62471/ EN 62471/ IS: 16108 and should fall in the exempt or low risk group of outdoor Luminaries.
- viii. Beam Angle: Medium (30-60 degree).
- ix. Secondary Lens/Optics: Luminaire should have secondary optical lens of type PMMA (Poly-Methyl Methacrylate Acrylic)/Borosilicate glass/Polycarbonate. Also

the lens shall have maximum temperature withstand capacity of 120 Deg. C.

- x. Colour temperature of the proposed white colour LED shall be 5700K (i.e. 5665K + / - 355K, as per ANSI standard C78.377A). Colour point should fall within the Step 7 McAdam as per ANSI standard C78.377A.
- xi. Colour Rendering Index (CRI): Greater than or equal to 70 and should include all colour range of R1 to R15, with R9>0.
- xii. The light source shall be a white LED (W-LED) type. Light output from the white LED Light should be constant throughout its duty cycle.
- xiii. LED Module PCB: MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W. The minimum thickness should be 1.6mm for outdoor Luminaries. However the same is not applicable for COB.
- xiv. Junction temperature of LED Chip shall not exceed 100 Deg. C in case of SMD.
- xv. Make of SMD type Chip: Nichia, Osram, Lumileds (Erstwhile Philips Lumileds), Cree.
- xvi. Make of COB: Citizen, Bridgelux.

b. LED Driver:

- i. Input Voltage Rating: 140 to 300 V.
- ii. Type: Wireless dimmable driver, registered as per product type under BIS-CRS Compulsory Registration Scheme. Driver should also be Constant Current or Constant Current Constant Voltage.
- iii. Minimum Efficiency of Driver: 85%.
- iv. Dimming Range: 10-100%.
- v. Power factor of complete fitting ≥ 0.95 .
- vi. Surge Protection: Minimum 4 kV is to be used in series with every driver with fail safe (i.e. without leading to fire hazard) and extra Min 10 kV Surge Protection device, external to the driver circuit, but within the same housing needs to be used. Failed status of surge devices should be clearly visible through flag / indication.
- vii. Total Harmonic Distortion (THD): Less than 10% at full load.
- viii. Potted LED Driver: Driver should be half Silicone gel potted driver for better heat dissipation and should be vibration proof for driver circuit component to increase longevity. Destructive test for checking of potted driver needs to be done.
- ix. IP Protection: 65 or above.
- x. Power Supply shall be connected to the LED PCBs through proper connectors.
- xi. Protection:
 - I. Short Circuit Protection.
 - II. Open Circuit Protection.
 - III. Reverse Polarity Protection.
 - IV. Over Voltage Protection. Driver shall withstand min 340V for 2 hours and min 300V for 48 hours without failure.
- xii. Driver shall comply with the safety requirements laid down in IEC: 61347-2-13 / EN: 61347-2-13 / IS: 15885-2-13.
- xiii. Driver shall comply with the performance requirements as per IEC: 62384 / IS: 16104.

- xiv. Driver PCB should be FR4 Grade (Heat Resistive) having min thickness of 1.6 mm.
- xv. Junction/channel temperature of switching devices like MOSFET & Transistors are to be provided.
- xvi. Driver should have effective heat sink. Maximum driver case temperature must be declared for the luminaries.

c. Luminary System:

- i. Housing: Made of pressure die cast extruded Aluminium (LM6/ADC12/LM24) having sufficient area with fins/heat sink for heat dissipation. The temperature should not increase more than 20 degree C above ambient temperature even after 48 hours of continuous operation.
- ii. Cover Type: Heat Resistant Toughened Clear Glass or UV Stabilized Polycarbonate Cover.
- iii. Housing Protection: IP 65 or above and IK 07 or above.
- iv. The luminary shall have LM-79/IS: 16106:2012 test report from a NABL accredited lab.
- v. Make of luminaries must be embossed /engraved on the luminary fitting.
- vi. Connecting wires used inside the luminaries shall be Low Smoke, Fire retardant (FRLS) cable.
- vii. Luminaries should be provided with mounting bracket (GI or Stainless Steel).
- viii. Ambient temperature to be considered: 40 degree centigrade.
- ix. Humidity to be considered: 10% to 95% RH.
- x. The LED luminaries shall have 60months warranty from the manufacturer from the date of commissioning.

Duly Filled in Annexure-G shall be submitted by the successful bidder before carrying out pre-dispatch inspection test of luminaries

d. Future Provision for wireless smart control of dimmable LED Flood Lights on the High Mast Tower:

Luminaries should have following features but not limited to the only one for incorporating smart technology and for controlling the 400 watt LED luminaries in future. Provision of smart control of luminaries should be made in the driver unit and in High Mast Feeder Pillar box in such a way so that it should be compatible with any other technology required to incorporate the smart control in future. Provision needs to be made for the following requirements of smart control of luminaries but not limited to the only one:

The system should be able to optimize lighting operation by scheduled switching, On/Off/continuous dimming capability (10%-100%) based on the demand/ Geo Clock, off-peak, proactive monitoring and alerting for proper maintenance support. The system should have intelligent energy metering to track energy usage, periodic

reports on usage status, run hours. Each luminaire must have Individual dimming control that can be mapped into logical groups.

Every High mast shall have individual high mast control panel/master controller, therefore feeder pillar box for High Mast needs to have provision to incorporate this. The High Mast control panel shall be capable of storing the schedule locally and shall control the luminaire as per schedule i.e. Power ON/OFF and Dimming. The high mast control panel should be able to communicate both way with the gateway through a separate RF network/technology. The gateway shall have provision for Connectivity through LAN/Ethernet/GSM. In case the communication between the gateway and the High mast controller is not established for any instance, it shall set up the last scheduled setting as default.

The vendor / manufacturer of LED Luminaries should provide necessary support for integration of the smart control of aforesaid 400 watt luminaries, if required.

Specifications of High Mast Lighting Towers:

a. Structure:

The High Mast shall be of 25 Meters High, continuously tapered, polygonal cross section, at least 20 sided, presenting a good and pleasing appearance, based on the above referred applicable standards. The structure shall be suitable for wind loading as per IS 875 (Part 3), 1987. Dimensions of the High Mast shall be as per the following TECHNICAL DATA SHEET FOR 25 MTRS. HIGH MAST WITH INTEGRAL POWER TOOL is mentioned.

Thickness of 3 (three) sections of High Mast made, should be mentioned in the offer clearly.

The Mast shall be fabricated from high tensile steel plates of grade E-350/S-355, conforming to IS 2062/BS-EN 10025, cut and folded to form a polygonal section as stated above and shall be telescopically jointed giving a continuous tapered profile with good visual appearance and welded.

The Mast shall be delivered in sections of effective length as per standard at site. Thus 25 mtr. High Mast shall be supplied in three sections & each section shall be fabricated out of individual plate duly folded and welded. There shall be only one longitudinal seam weld per section. Section fabricated out of multiple plates or with more than one weld shall not be accepted. At site, the sections shall be joined together by slip-stressed-fit method. No site welding or bolted joint shall be done on the Mast. The minimum overlap distance shall be 1.5 times the diameter at penetration. The structural design calculations for the mast and foundation bolt set shall be submitted for verification. The Mast shall be provided with fully penetrated flange, which shall be free from any lamination or inclusions. The welded connection of the base flange shall be fully developed to the strength the bolt-holes to ensure elimination of helical stress concentration. For the environmental protection of the

mast, the entire fabricated mast shall be hot dip galvanized, internally and externally, having a uniform thickness as per IS: 2629/BS EN ISO 1461.

b. Door Opening:

An adequate door opening shall be provided at the base of the mast and the opening shall be such that it permits clear access to equipment like winches, cables, plug and socket, etc. and also facilitate easy removal of the winch. The door opening shall be complete with a close fitting, vermin proof, vandal resistant, weatherproof door, provided with allen bolts for locking with a provision for padlocking. The door opening shall be carefully designed and reinforced with welded steel section, so that the mast section at the base shall be unaffected and undue buckling of the cut portion is prevented. Size of door opening shall be maximum 1200 mm x 250 mm to avoid buckling of the mast section under heavy wind conditions.

c. Lantern Carriage:

A fabricated Lantern Carriage shall be provided for fixing and holding of 12 (twelve) nos. 400 Watts LED Integral type/Non-integral type Flood Light luminaries, for symmetrical arrangement, along with necessary Driver Unit(s) (Driver units for non-integral fitting should also be fitted on the lantern carriage), 1 no. LED Aviation Obstruction Luminaries and 2 (two) Nos. Cast Aluminum Junction Boxes radially and symmetrically. The Lantern Carriage shall be of special design and shall be of ring type steel tubular construction, the tubes acting as conduits for wires, with holes fully protected by grommets.

The Lantern Carriage shall be so designed and fabricated to hold the above mentioned light fittings, Driver Units for Non-Integral fittings & Junction Boxes and also have a perfect self-balance. It shall have proper arrangement to prevent swing and to prevent damage to Mast surface or other installed parts, during lowering/raising operation of the carriage.

The Lantern Carriage shall be fabricated in two halves and joined by bolted flanges with stainless steel bolts and stainless steel nuts to enable easy installation or removal from the erected High Mast. The inner lining of the carriage shall be provided with protective PVC arrangement, so that no damage is caused to the surface of the mast during the raising and lowering operation of the carriage. The entire Lantern carriage shall be hot dip galvanized after fabrication. All hardware used shall have necessary corrosion protection provision.

d. Junction Box:

Weather proof (IP-65) Junction Boxes, made of Cast Aluminum shall be provided on the Carriage Assembly as required, from which the inter-connections to the above mentioned Aviation Obstruction Luminaries, Flood Light Fittings and associated Driver Units, fixed on the carriage (for Non-Integral Fittings), shall be made. Inter connections shall have to be done by 1100 Volts grade PVC insulated & PVC sheathed 3 core 2.5 sq. mm. or higher size copper conductor flexible cables

conforming to IS: 694. Bottom entries of Cable/ Wire with the Luminaries/Driver Units/Junction Boxes are preferred.

e. Raising and lowering mechanism:

For the installation and maintenance of the luminaries and lamps, it shall be necessary to lower and raise the lantern carriage assembly. To enable this, a suitable winch arrangement shall be provided, with the winch fixed at the base of the mast and the specially designed head frame assembly at the top.

f. Winch:

The winch shall be of completely self-sustaining type, without the need for brake shoe, springs or clutches. Each driving spindle of the winch shall be positively locked when not in use, by gravity activated Pawls. Individual drum also should be operated for fine adjustment of lantern carriage. The capacity, operating speed, safe working load, recommended lubrication and serial number of the winch shall be clearly marked on each winch. The gear ratio of the winch and the minimum working load shall be indicated by the tenderer. The winch shall be self-lubricating type by means of an oil bath and the oil shall be readily available grades of reputed producers. The winch drums shall be grooved to ensure perfect seat for stable and tidy rope lay, with no chances of rope slippage. The rope termination in the winch shall be such that distortion or twisting is eliminated and at least 5 to 6 turns of rope remains on the drum even when the lantern carriage is fully lowered and rested on the rest pads. It should be possible to operate the winch manually by a suitable handle and by an integral power tool. Operation of the winch with manual handle shall be independent of the power tool. Winches with manual operation through the power tool shaft shall not be accepted. Individual drum operation of the winch shall be possible.

A double drum winch shall have two drums and two worm gears independent in operation for increased safety. It shall be possible to remove the double drum after dismantling through the door opening, provided at the base of the mast. Also, a Winch Gear Box for simultaneous and reversible operation of the double drum winch shall be provided as part of the contract. Sufficient distance is to be maintained between the switch gears and the winch assembly inside the lower part of the High Mast to provide easy maintenance facility. Manufacturer's Test Certificate for the winch will have to be provided. A test certificate shall be furnished by the Contractor for each winch in support of the maximum load operated by the winch.

g. Head Frame:

The head frame which is to be designed as a capping unit of the mast shall be of welded steel construction, galvanized both internally and externally after fabrication. The top pulley shall be of appropriate diameter, large enough to accommodate the stainless steel wire ropes and the multi-core electric cable. The

pulley block shall be made of non-corrodible material, and shall be of die cast Aluminum Alloy (LM-6). Pulley made of synthetic materials such as Plastic or PVC are not acceptable. Self-lubricating bearings and stainless steel shaft shall be provided to facilitate smooth and maintenance free operation for a long period. The pulley assembly shall be fully protected by a canopy, galvanized internally and externally. Close fitting guides and sleeves shall be provided to ensure that the ropes and cables do not get dislodged from their respective positions in the grooves. The head frame shall be provided with guides and stops with PVC buffer for docking the lantern carriage.

h. Stainless Steel Wire Ropes:

The suspension system shall essentially be without any intermediate joint and shall consist of only non-corrodible stainless steel of AISI 316. The Stainless steel wire ropes shall be of 7/19 construction, the central core being of the same material. The overall diameter of the rope shall not be less than 6 mm. The breaking load of each rope shall not be less than 2200 kg giving a factor of safety of over 5. The thimbles shall be secured on ropes by compression splices. Two continuous lengths of stainless steel wire ropes shall be used in the system and no intermediate joints are acceptable in view of the required safety. No intermediate joints/terminations, either bolted or else, shall be provided on the wire ropes between winch and lantern carriage. Manufacturer's Test Certificate for the stainless steel wire rope will have to be provided.

i. Electrical System, Cable and Cable Connections:

A suitable terminal box shall be provided as part of the contract at the base compartment of the High Mast for terminating the incoming cable (XLPE insulated cable of 1100 Volts grade) through a connector. The electrical connections from the bottom to the top of the High Mast shall be through 2 (two) Nos. separate circuits made by 2 (two) Nos. special trailing cables. Each circuit will have to be protected by 1 (one) No. 63 Amps TPN MCB (breaking capacity not less than 10 KA). Incoming of the above mentioned TPN MCB will be connected with the above mentioned connector (where the incoming cable is being terminated) by copper flexible cable of proper size. The cable shall be of 1100 Volts grade, EPR insulated and PCP sheathed to get flexibility and endurance as per IS: 9968 (Part-1)-1988. Size of the cable shall be minimum 5 core x 4.0 sq. mm. stranded Copper conductor.

At the top, there shall be weather proof Junction Boxes, as mentioned above to terminate the trailing cable. Connections from the top Junction Boxes to the individual luminaire and Control Gear Box shall be made by using 1100 Volts grade PVC insulated 3 core 2.5 sq. mm. copper conductor flexible cables of ISI marked. The system shall have in-built facilities for testing the luminaries while in lowered position. Suitable provision should also be made at the base compartment of the High Mast to facilitate the operation of internally mounted, electrically operated power tool for raising and lowering of the lantern carriage assembly. The trailing cables shall be terminated by means of specially designed, metal clad, multi-pin plug

and industrial type socket provided in the base compartment to enable easy disconnection when required.

j. Power Tool for the Winch:

A suitable, high-powered, electrically driven, internally mounted power tool, with manual over ride shall be supplied for the raising and lowering of the lantern carriage for maintenance purposes. The speed of the power tool shall be to suit the system. The power tool shall be single speed, provided with a motor of the required rating. The power tool shall be supplied complete with a suitable control arrangement so that the operation of the mast can be done at a safe distance. The capacity and speed of the electric motor used in the power tool shall be suitable for lifting of the design load installed on the lantern carriage.

The power tool mounting shall be so designed that it shall be not only self-supporting but shall also align the power tool perfectly with respect to the winch spindle during the operations. Also, a handle for the manual operation of the winches in case of problems with the electrically operated tool, shall be provided. There shall be a separate torque-limiting device to protect the wire ropes from over stretching. It shall be mechanical type with suitable load adjusting device. The torque limiter shall trip the load when it exceeds the adjusted limits. There shall be suitable provision for warning the operator once the load is stripped off. The torque limiter is a requirement as per the relevant standards in view of the overall safety of the system. Mast shall have its own power tool motor.

k. Lightning Finial (Lightning Arrestor):

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

l. Earthing Terminals: Two (2) Nos. separate earth terminals using 12 mm diameter GI Bolts shall be provided at convenient locations on the base of the High Mast for connection with 50 mm x 6 mm GI Flat, for lightning protection and earthing of electrical accessories installed on the High Mast.

m. Foundation for High Mast: It is the responsibility of the contractor to provide suitable RCC foundation for the High Mast. The general soil bearing capacity at site is approximately 7.5Ton per Sq. Meter at a depth of 2 Meter from the existing ground level. If slushy materials are found, the contractor should take suitable strengthening measure as mentioned in the Scope of Work. Contractor should also consider old concrete slab, boulder, hard rock etc. while excavating for foundation work, due to old site condition.

n. TECHNICAL DATA SHEET FOR 25 MTRS. HIGH MAST WITH INTEGRAL POWER TOOL:

1.	HIGH MAST SYSTEM		
a)	Height of High Mast.	:	25 meter.
b)	No. of Sections.	:	3 (three) Sections.
c)	Material of Construction.	:	E-350 / S-355 grade, as per BSEN 10025/ IS 2062
d)	Thickness of Sections.	:	To be mentioned by the bidder. [Minimum thickness of top & middle section is to be 4 mm and thickness of bottom section is to be 5 mm.]
e)	No. of longitudinal weld per Section.	:	ONE
f)	No. of circumferential weld per Section.	:	NONE
g)	Length of individual Section.	:	To be mentioned by the bidder.
h)	Cross Section of High Mast.	:	20 sided polygon (minimum).
i)	Minimum Bottom diameter of Bottom Section and Minimum Top diameter of Top Section (A / F).	:	Minimum Bottom diameter of Bottom Section: 460 mm. Minimum Top diameter of Top Section: 150 mm.
j)	Type of joints.	:	Slip-stress-fit method at site.
k)	Length of overlap.	:	To be mentioned by the bidder. However, minimum over lap distance shall be 1.5 times the diameter at penetration.
l)	Metal protection treatment for High Mast Sections.	:	Hot-Dip Galvanized.
m)	Average thickness of galvanization.	:	As per IS: 4759 – 1984 / BS. ISO 1461
n)	Maximum size of opening door at base.	:	To be mentioned by the bidder.
o)	Type of locking arrangement.	:	Close fitting, vermin proof, vandal resistant, weatherproof door provided with a heavy-duty double internal lock with special paddle key.
p)	Details of slack board inside the base compartment.	:	PVC Board.
q)	Provision for incoming cable termination.	:	Connector.

r)	Diameter of base plate	:	To be mentioned by the bidder
s)	Thickness of base plate.	:	To be mentioned by the bidder. However, thickness should not be less than 30 mm.
t)	Lightning Protection Finial.	:	1 (one) No. Heavy duty hot dip galvanized lightning finial of minimum 1.2 Meter in length.
u)	Size of Anchor Plate and thickness.	:	To be mentioned by the bidder. However, thickness should not be less than 8 mm
v)	Details of Template	:	To be mentioned by the bidder. However, thickness should not be less than 2 mm
2	DYNAMIC LOADING AS PREVAILING AT SITE		
a)	Maximum Wind Speed.	:	55 Meters / Second.
b)	Maximum Gust Speed time.	:	3 (three) Seconds.
c)	Height above ground level these two factors are measured.	:	10 (ten) Meter
d)	Factor of safety for Wind Load.	:	1.25
e)	Factor of safety for other Load.	:	1.15
3.	FOUNDATION DETAILS		
a)	Type of foundation.	:	Open Raft Shallow footing.
b)	Size of foundation.	:	To be designed by the tenderer.
c)	Soil bearing capacity at site.	:	7.5 Ton per Sq. Meter at a depth of 2 Meter from the existing ground level.
d)	Design Safety Factor.	:	As per IS: 456
e)	Considered Wind Pressure (Kg / Mt ²)	:	As per IS: 875 – 1987
f)	Depth of foundation.	:	To be designed by the tenderer.
g)	No. of Foundation Bolts.	:	8-12 Nos.
h)	PCD of Foundation Bolts.	:	To be mentioned by the bidder.
i)	Type of Foundation Bolts.	:	High Tensile Studs (6.8 grade).
j)	Length of Foundation Bolt	:	To be mentioned by the bidder. However, length should not be less than 850 mm.
k)	Foundation Bolt diameter.	:	30 mm (minimum).

4.	LANTERN CARRIAGE		
a)	Material of Construction.	:	Ring type steel tubular construction. However, further details to be provided by the bidder.
b)	Minimum Diameter of Lantern Carriage Ring.	:	To be mentioned by the bidder
c)	Construction.	:	Construction having not less than 6(six) Arms.[To suit luminaries arrangement both in symmetrical and asymmetrical formation]
d)	No. of joints.	:	2 (two).
e)	Type of Joints.	:	Joined by bolted flanges with stainless steel bolts and stainless steel nuts.
f)	Buffer between Lantern Carriage and Mast Section.	:	PVC sleeve on Lantern Carriage.
g)	Load carrying capacity.	:	Minimum 750 Kg.
h)	Total Weight of Lantern Carriage Assembly with fittings.	:	To be mentioned by the bidder.[as per weight & number of luminaires]
i)	Number of fittings/ Type of fittings & fixtures.	:	12 (Twelve) Nos. 400 Watts LED Integral/ Non-integral type Flood Light Fittings along with Driver Units (for Non-Integral), 1 (one) LED Aviation Obstruction Luminaries and 2 (two) Nos. Cast Aluminum Junction Boxes to be fitted radially and symmetrically. [In case of asymmetrical formation numbers flood light fittings may be less than 12. However it needs to be balanced out by counter weight].
5.	HEAD FRAME		
a)	Pulley Quantity	:	To be mentioned by the bidder. However, the quantity should not be less than 4 (four) Nos.
b)	Pulley Diameter	:	To be mentioned by the bidder.
c)	Pulley material.	:	Die cast Aluminum Alloy (LM-6).
d)	Shaft of Pulley	:	Stainless Steel.
e)	Bearing of Pulley.	:	Maintenance Free self-lubricating type Bush Bearing.
f)	Head Frame Cover	:	MS galvanized both internally and externally.
g)	Bolts and Accessories	:	Stainless Steel.

6.	RISING CABLE OF HIGH MAST		
a)	Type of Cable.	:	The cable shall be of 1100 Volts grade, EPR insulated and PCP sheathed to get flexibility and endurance as per IS: 9968 (Part-1)-1988. Size of the cable shall be minimum 5 core x 4.0 sq. mm. stranded Copper conductor.
b)	Material of core of cable.	:	Stranded Copper Conductor.
c)	Minimum Conductor size.	:	2.5 Sq. mm.
d)	Minimum No. of cores.	:	5 (five).
e)	No. of Circuits.	:	2 (two).
7.	WINCH		
a)	No. of Drums per Winch.	:	Double Drum Double Gear type.
b)	Gear Ratio.	:	To be mentioned by the bidder.
c)	Capacity.	:	750 Kgs.
d)	Method of operation.	:	Both Electrical and Mechanical.
e)	Lubrication arrangement.	:	Permanent Oil Bath.
f)	Type of lubricant.	:	To be mentioned by the bidder.
8.	STAINLESS STEEL WIRE ROPE		
a)	Make.	:	To be mentioned by the bidder
b)	Grade.	:	AISI 316
c)	No. of Ropes.	:	Two continuous ropes.
d)	Construction.	:	7/19
e)	Central Core Material.	:	Stainless steel core.
f)	Minimum diameter in millimetre.	:	6 (six).
g)	Thimbles	:	SS Thimble.
h)	Minimum Breaking load capacity.	:	2400 Kg. x 2
i)	Factor of safety.	:	More than 5 for system at full load.
9.	POWER TOOL		
a)	Model.	:	Integral./Gear Motor
b)	Input supply.	:	3 Phase, 415 Volts, 50 Hz AC System.
c)	Wattage / HP.	:	To be mentioned by the bidder. [Minimum 1 HP & above if required.]
d)	No. of speed.	:	Single speed.
10.	TORQUE LIMITER		
a)	Lifting capacity.	:	Up-to 750 Kgs or considering the total weight of luminaries & its driver units in a high mast, lantern carriage etc.
b)	Adjustable / Non-adjustable	:	Adjustable.
c)	Tripping device.	:	Mechanical.

o. Feeder Pillar Box for High Mast Lighting Tower (for CFS and other areas of KPD & NSD except Coal Berth & Alifnagar Coad Dump area):

The Feeder Pillar Box for High mast tower of suitable dimension to be supplied with the following components:

- i) 63 Amps TPN MCB – 1 No.
- ii) 45 Amps TP Contactor – 1 No.
- iii) 9 Amps. TP Contactor (AC - 3 duty) – 2 Nos.
- iv) Double Dial / Single Dial Time Switch (with rechargeable battery backup) for the automatic control of luminaries– 1 No.
- v) Bypass Switch – 1 No.
- vi) 6A Control MCB - 1 No.
- vii) Glass Fuse of appropriate capacity - 1 No.
- viii) Toggle switch - 1 No.
- ix) Push Button - 2 Nos.

The Feeder Pillar Boxes shall be suitable for IP – 55 Protection.

2 Nos. full threaded GI Bolts (M 10 x 40 mm) along with G.I. Nuts & Washers are to be provided on two sides of the Feeder Pillar Box as Earth Stud.

Two Nos. Danger Boards are to be provided on the Front Door and Back Door of the Feeder Pillar Box.

p. Installation of High Mast :

The contractor shall make necessary arrangements for installation of the High Mast by using suitable equipment. Derrick or crane, if required, for the purpose shall be arranged by the contractor at his own risk, cost and arrangement. Rate to be quoted accordingly.

Specifications of Indoor Type LT Panels & Feeder Pillar Boxes:

The LT Panels should be complete in all respect and equipped with all necessary accessories. The spares / attachments, which are meant necessary for the smooth functioning of the equipment and specially, are not mentioned here shall be considered / to be included in the scope of supply.

a. LT Panel for Alifnagar Coad Dump & 13, 14 NSD area:

One Indoor type LT Panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland plates (in accordance with IS 13032, IS 8623, IS/IEC 60947-2) on the bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick. Compact modular designed LT Panel will have

front & rear access with protective devices removal from front & having IP-42/43 protection.

i. The LT Panel shall comprise of following accessories:

Sl. No.	Description	Qty.
1.	Incomer: 50 KA, 415V AC, 630A, 4P, ACB with ground fault protection	01 no.
2.	Outgoing A: 50 KA, 415V AC, 630A, 4P, ACB with ground fault protection.	02 nos.

- ii. 04 nos. extensible type enclosed copper tinned bar as Phase & Neutral bus bars of size as mentioned in the BOQ/as per the recommendation of Engineer in Charge, including colour coding of bus bars with PVC sleeve and 1 no. Copper bar as earth bus bar having size as mentioned in the BOQ with arrangement for earthing.
- iii. Digital Display type 3 phase 4 wire 0-600A Ammeter with suitable CT (as per BOQ) and built in Selector Switch. 3 Set
- iv. Digital Display type 3 phase 4 wire 0-500V Voltmeter with built in Selector Switch. 1 Set.
- v. Main CTs should be Resin Cast Type suitable for Microprocessor release based ACB.
- vi. LED Indication Lamps for R, Y, B phases of each feeders.
- vii. Making interconnection with suitable size of copper wire/strip.
- viii. Detachable type Gland Plate (made from 3mm thick MS Sheet) with punched holes suitable for incoming and outgoing XLPE insulated LT cables cable of size as mentioned in the BOQ.

All other specifications should be as per BOQ. Any other item considered necessary to make the Panel complete in all respect should be incorporated.

b. LT Panel for Coal Berth of KPD-II area:

One Indoor type LT Panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland plates (in accordance with IS 13032, IS 8623, IS/IEC 60947-2) on the bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick. Compact modular designed LT Panel will have front & rear access with protective devices removal from front & having IP-42/43 protection.

i. The LT Panel shall comprise of following accessories:

Sl. No.	Description	Qty.
1.	Incomer: 50 KA, 415V AC, 630A, 4P, ACB with ground fault protection	01 no.
2.	Outgoing A: 35/36 KA, 415V AC, 160A, 4P, MCCB of adjustable thermal & adjustable magnetic with earth fault protection & with other accessories as per BOQ.	03 nos.

3.	Outgoing B: 35/36 KA, 415V AC, 63/65A, 4P MCCB of adjustable thermal & adjustable magnetic setting with other accessories as per BOQ.	05 nos.
4.	Outgoing C: 10KA, 240V AC, 6-32A, DP MCB of C Characteristics with other accessories as per BOQ.	03 nos.

- ii. 04 nos. totally enclosed copper tinned bar as Phase & Neutral bus bars of size as mentioned in the BOQ/as per the recommendation of Engineer in Charge, including colour coding of bus bars with PVC sleeve and 1 no. Copper bar as earth bus bar having size as mentioned in the BOQ with arrangement for earthing.
- iii. Digital Display type 3 phase 4 wire 0-600A Ammeter with suitable CT (as per BOQ) and built in Selector Switch. 1 Set
- iv. Digital Display type 3 phase 4 wire 0-500V Voltmeter with built in Selector Switch. 1 Set.
- v. Main CTs should be Resin Cast Type suitable for Microprocessor release based ACB.
- vi. Three phase digital Ammeters of CI 1.0 accuracy for all the MCCB outgoing feeders with non-illuminated type selector switch.
- vii. Astronomical Type Electronic Timer Switch for automatic control of lighting circuits depending on the time of Sunrise & Sunset at a particular geographical location with lithium battery backup of min. 5 years for two outgoing street light pole feeders.
- viii. LED Indication Lamps for R, Y, B phases of each feeders.
- ix. Making interconnection with suitable size of copper wire/strip.
- x. Detachable type Gland Plate (made from 3mm thick MS Sheet) with punched holes suitable for incoming and outgoing XLPE insulated LT cables cable of size as mentioned in the BOQ.

All other specifications should be as per BOQ. Any other item considered necessary to make the Panel complete in all respect should be incorporated.

c. Feeder Pillar Boxes for Alifnagar Coad Dump & 13, 14 NSD area:

As per BOQ for illumination of Alifnagar, 13 & 14 NSD Berth area.

d. Feeder Pillar Boxes for Coal Berth KPD-II area:

As per BOQ for illumination of Alifnagar, 13 & 14 NSD Berth area.

e. Feeder Pillar Boxes for (CFS and other areas of KPD & NSD except Coal Berth & Alifnagar Coad Dump area):

Supply and delivery of Feeder Pillar Box for HMTs, which will be made from 3.15 mm thick CRCA sheet with GI angle Frame, double flap Hinged Door, both in front & rear sides with stiffeners, Handle complete with integral canopy and panel lock. The Feeder Pillar Box will be suitable for outdoor installation (having IP66 protection). After completion of total fabrication work of the Feeder Pillar Box, the assembly will be Hot Dip Galvanized (Min mean coating 610g/sq. m. or 85 µm). 2

Nos. Panel Keys are to be provided with each Feeder Pillar Box. Door sealing arrangement are to be made with Neoprene Rubber Gasket of thickness not less than 3mm. Cable(s) entry will be from bottom only for which detachable type Gland Plate (made from 3.15 mm thick GI Sheet) with punched holes suitable for XLPE insulated LT Al Cables of sizes as per BOQ shall be provided. The Feeder Pillar Box will have Earth Bus made from G. I. Flat of size 50 x 6mm. Electrolytic grade tinned copper bus of size – 50 x 6mm for each phase and Neutral will have to be provided. Inner connections between Bus-Bars and the components are to be made by Electrolytic grade tinned copper flat/ 1.1KV grade insulated copper conductors of suitable size, along with tinned copper lugs.

Component Description:

• **Type -1:**

The Feeder Pillar Box for lattice towers shall comprise of following accessories:

- (i) 01 nos. 63A, TP MCB of 10 KA,
- (ii) 03 nos. 32A , 10KA, TP MCB as outgoing unit,
- (iii) 04 nos. tinned Copper bar as Phase & Neutral bus bars and 1 no. Aluminium bar as earth bus bar with suitable size.

Along with this timer of approved make shall be incorporated in the pillar box to control the switching on and off of tower lights. These type of pillar boxes are to be installed in the base of the lattice towers.

• **Type 2:**

The Feeder Pillar Box for lattice towers shall comprise of following accessories –

- (i) 01 nos. 250A, 35KA, FP MCCB,
- (ii) 04 nos. 63A , 35KA, FP MCCB as outgoing unit,
- (iii) 04 nos. tinned Copper bar as Phase & Neutral bus bars and 1 no. Aluminium bar as earth bus bar with suitable size.

f. Foundation of the Feeder Pillar Box:

The Feeder Pillar Box will be installed on a raised Reinforced Cement Concrete (RCC) foundation/ Masonry foundation (as per BOQ), to be constructed above ground level. The Feeder Pillar Box will be fixed with its foundation by bolts of adequate size, grouted in the concrete foundation. The foundation will be raised by 500 mm above ground level.

g. Distribution Boards:

The DBs to be installed in top and middle platform of Lattice Tower shall be dust and water proof type (IP 65 protection) should be factory built /fabricated TPN/SPN distribution boards of sheet steel, phosphatized, powder painted complete with bus bars, neutral links, blanking plates etc. conforming to relevant IS norm. The DBs have to have components as per BOQ.

The DBs are to be installed on the platforms of lattice towers by proper clamping arrangement and are to be double earthed adequately. The DBs are to be provided in accordance to the specification mentioned in BOQ.

h. Earthing for High Masts, Pillar Boxes & Feeder Pillar Boxes:

Suitable Pipe Earthing Stations will have to be provided near High Mast/ Pillar Box. There shall be two number Earth Stations for High Mast /Pillar Boxes /Feeder Pillar Box by using Earth pipe electrode made from GI Pipe (dimension as per BOQ for Pillar Box and Feeder Pillar Box & for High Mast), Medium Duty, IS:1239 and the pipe assembly shall be Hot Dip Galvanized after fabrication. Earthing should be done generally conforming to latest edition of IS: 3043. Two earth stations for High Mast/ Pillar Box are to be inter connected by G.I. flat of size as per BOQ is to be used for connection between High Mast/ Pillar Box and Earth Stations. Cadmium plated /G.I Nuts, Bolts and Washers are to be used. All types of non-current carrying metal parts of electrical installations shall be earthed in conformity with the Indian Electricity Rules and relevant Indian Standard Specifications.

Apart from above details, Air Circuit Breaker should have following technical features:

- a. Should be suitable for a rapid and smooth interruption of capacitive and fault currents under all conditions.
- b. Should be free from re-strikes under all operating conditions.
- c. Should have suitable barrier for each phase and live parts to give total encapsulation and maximum safety.
- d. Necessary circuit breaker carriage with 3 position (isolate, test, service) draw out mechanism.
- e. Necessary isolating plugs and sockets.
- f. Necessary mechanism interlock and automatic safe shutters gear with arrangement for pad locking.
- g. ACB shall be provided with microprocessor based releases having built in over load, short circuit and neutral & ground fault protection etc. (as per BOQ). It should also include, but not limited to, the following spec.:
 - i. Measurement function to show 3 phase current, 3 phase voltage, KVA, KWH, power factor etc. in a LCD Display.
 - ii. Operation Counter.
 - iii. Last fault trip history
 - iv. Thermal Memory etc.
- h. Necessary set of auxiliary switches.
- i. Necessary set of CTs with ratios as specified.
- j. Necessary identification, metering requirements as specified i/c. ON/ OFF indication lamps, selector switches, fuses, ammeter, voltmeter etc.
- k. All Air Circuit Breakers shall be 4 pole having minimum 50 KA breaking capacity conforming to IS/IEC 60947-2 (2003).

Other Technical Parameters of the Air Circuit Breakers:

a)	Rated normal current	:	630 Amps.
b)	Impulse Voltage	:	12 kV
c)	Rated Operational Voltage	:	690 V AC
d)	Insulation voltage	:	1000 V AC
e)	Rated Frequency	:	50 Hz.
f)	Particulars of Specifications to be complied with	:	IS/IEC: 60947 – 2(2003) or latest amendment.
g)	Type of arc quenching medium	:	Air
h)	Number of poles	:	4
i)	Rated short-circuit breaking current for 1 second.	:	50 KA
j)	Rated supply voltage of closing & operating devices and auxiliary circuits.	:	240 V AC
k)	Operating Mechanism	:	The Operating Mechanism should be Stored Energy (in Spring) type and capable of giving specific duty of the Breaker, having provision for both Motor Charging and Manual Charging. The Motor should be suitable for operation at 240V, 50 Hz., Single Phase, AC Supply. All working parts of the mechanism should be of corrosion resistant material.

Other Technical Parameters of the Molded Case Circuit Breakers:

a)	Rated normal current	:	As per BOQ.
b)	Impulse Voltage	:	8 kV
c)	Rated Operational Voltage	:	690 V AC
d)	Insulation voltage	:	750 V AC
e)	Rated Frequency	:	50 Hz.
f)	Particulars of Specifications to be complied with	:	IS/IEC: 60947 – 2(2003) or latest amendment.
g)	Type of mechanism	:	Double Break Type.

h)	Number of poles	:	As per BOQ.
i)	Rated short-circuit breaking current for 1 second.	:	As per BOQ.
j)	Rated service short-circuit breaking capacity (Ics)	=	Rated breaking capacity (Icu)=100%

Specifications of Cables:

The cables should be generally compliance with **IS: 7098 (Part-1) / 1988** or latest amendment if any with following specifications:

a. Conductor:

(1) Stranded Aluminium should comply to **IS: 8130 - 1984** or latest amendment if any of following sizes, Colour coded, Voltage Grade: 1.1KV, Insulation: XLPE, Inner Sheath: Extruded PVC, Armour: Galvanized Steel Strips, Outer Sheath: Extruded PVC.

- A. 4C X 16 sq. mm.
- B. 4C X 25 sq. mm.
- C. 3.5C X 35 sq. mm.
- D. 3.5C X 120 sq. mm.
- E. 3.5C X 185 sq. mm.
- F. 3.5C X 240 sq. mm.

The cables should be supplied with returnable drums. Continuous length of cable in each drum should be such that no straight through joints will be allowed. It shall also be ensured that before dispatch, both ends of the cables are properly sealed to prevent ingress of moisture in the insulation. Direction of arrow must be marked on the cable drum.

± 5% variation will be allowed as per practice.

It shall be ensured that before dispatch, both ends of the cables are properly sealed to prevent ingress of moisture in the insulation. Direction of arrow must be marked on the cable drum.

b. Laying of Cables:

•Laying Underground:

Cable shall be laid generally in accordance with **IS: 1255-1983** or latest amendment, if any. The average depth of trench for laying cable shall be as below:

- i) Directly on ground - 0.75 m.
- ii) At road crossing - 1.00 m.

The trenches shall be excavated in reasonably straight line, and where there is a change in direction suitable curvature shall be provided with 12D radius where D is the diameter of the cable. Where gradients and changes in depth are unavoidable, this shall be gradual, except where otherwise directed by the Engineer. The cable shall be laid on a cushion of sand, protected with bricks placed on both sides (along the length of the cable) and top (across the length of the cable). After laying of the cable the duct shall have to be filled up by fine dry sand. Where cables run in parallel, separate ducts as stated shall have to be provided. G.I. pipe shall have to be used where cable pass through walls, roads, drains, culverts, railway line etc.

GI pipe also shall be used if depth of cable trench is less than 750mm and further excavation is not possible due to obstruction of existing material, which will be paid in actual. For one run of cable one GI pipe is to be considered. In other words two or more run of cable will not pass through one pipe.

The cable trench shall be filled back with riddled soil obtained from excavation. This shall be done in layer and compacted. Cable route marker shall have to be provided at a maximum distance of 50m.

•**Laying on wall or structure:**

Where cable shall be laid on wall or structure, the cable shall be laid by using MS Clamp of adequate strength and size. The maximum distance between clamps shall not be more than 400mm. The cable shall run as straight as possible. There shall be GI pipe protection of 1 meter from each floor level during vertical run. When the cable shall pass through wall/floor etc. pipe protection shall have to be given. Wherever cable shall be required to be laid inside the building, the cable shall be laid on perforated GI Tray of adequate size and mechanical strength. The tray shall be rigidly fixed on wall in a proper manner at suitable height using MS angle. The cable shall be fixed on tray using MS clamp of proper size and thickness at a distance should not be more than 300mm. In case cable pass from one building to another building; GI protection pipe of adequate size is to be provided with proper fixing. Neatness must be maintained.

•**Laying through existing trench :**

Cable shall be laid through existing covered/uncovered masonry trench taking out of RC covers, setting them in order, mending good the damages filling the trench with fine dry sand including supply of sand (if required). Cables should be handled carefully during installation to prevent mechanical injury to the cables. Ends of cables leaving trenches should be coiled and provided with a protective pipe or cover, until such times, the final terminations to the equipment are completed. Insulation Test of the cable should be carried out in presence of the Engineer. Any cable, which is found defective, should be replaced before the next group of cables is laid. All cables will be identified close to their termination points by Cable

Number / Equipment Number, which will be punched on Aluminium Straps (approx. 2 mm. thick) securely fastened to the cable and wrapped around it. Type and size of the cable also to be punched on the Aluminium Straps. In unpaved areas, Cable Trenches should be identified by means of Cable Route Markers. These markers should be placed at location of changes in the direction of cables and at intervals of not more than 30 meters on fixed structure. All temporary ends of cables must be protected against dirt and moisture to prevent damage to the insulation. For this purpose, ends of the cables should be covered with PVC insulating tape.

Before energizing, the insulation resistance of every cable shall have to be measured. The contractor shall 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 Engineer's end and subsequent approval of the same. As built drawing (in triplicate) of the above cable route shall have to be submitted after completion of the above work. Cable length should be measured jointly.

•**Termination and Finishing of Cable:**

Termination of cable shall have to be made by using suitable compression cable gland and sockets by crimping to the size of the cable.

•**Bi-metallic washer:**

Where copper to Aluminum Connections are to be made, Bi-metallic Washers shall be used.

Specifications of Street Light Pole:

a. Supply:

The Street light GI poles shall be swaged ones made of seamless or welded tubes of suitable length, swaged and joined together, having Loop-In-Loop-Out (LILO) box in GI sheet steel lockable enclosure (as per BOQ) fitted at suitable height. No circumferential joints shall be allowed in the individual tube lengths. There shall be one longitudinal seam weld only.

The pole will be of length as per BOQ with fixed base plate and of type as per BOQ having GI cross-arm. The length of the arm shall be suitable to fit two numbers integral type flood light luminaries as per BOQ.

All the poles shall be manufactured and supplied as per technical specification of IS 2713, Part II 1980 with its latest amendment.

b. Installation:

The poles shall have to be properly installed in an absolute vertical manner at a

suitable gap so that the area gets adequately illuminated. The planting depth shall be 1.5 meter or as per standard. All the poles shall be properly earthed with spike electrodes as per BOQ. Suitable foundation for lighting poles is to be provided if planting depth of 1.5 meter could not be achieved. If slushy material is found at the location of installation of poles, the slushy material shall have to be removed and is to be replaced by silver sand and compacted for strengthening and making the base suitable for pole foundation.

Other Items specifically not mentioned in the T.S. shall be as per BOQ. Any other item required for installation but specifically not mentioned either in the BOQ or the T.S. like requisite length of G.I. Pipes, clamps and accessories shall be deemed to be included in the rates for installation of the items for which these items are intended. Tenderers are advised to build up the installation prices accordingly. Any claim in this regard on the plea that the item is not specifically mentioned shall not be entertained.

Cleaning of site:

On completion of works, the contractor shall reinstate and make good at his own expense any property or land which might have been disturbed and/or damaged by his works. Contractor should also clean the site as required during execution and fully clear the site after completion of all the works. Any holes/drillings/openings/damages made on the wall/roof for drawing of cables/installation of equipment shall be made good by the tenderer at his own cost.

List of Preferred Makes

Item	Make
ACB	ABB/Siemens/Schneider / C & S / Havells/ L&T/ GE.
MCCB / MCB / Contactor	ABB/Siemens/Schneider / C & S / Havells/ L&T/ GE/Legrand.
Cables	Polycab/Gloster / Havells/KEI.
LED Luminaries.	Philips/ Bajaj/ Crompton / Havells/Wipro.
PVC Copper wire for internal wiring	KDK-Evershine / Finolex / Havells / National / Nicco / Polycab.
Toggle switch, Push button, Meter Time switch with By-Pass arrangement	Kaycee / AE / Siemens / L&T / C & S / ABB / Schneider.
Fans	Havells/Bajaj/Crompton/Usha/Orient

Any other make conforming to the technical specification of the equipments can be accepted if none of the preferred makes are available in the market for some reason or the other which is to be acceptable to Engineer of the Contract.

INSPECTION & TESTING

NIT No. KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

All the reports regarding Type, Routine Test needs to be submitted. Representatives from Kolkata Port Trust will be visiting manufacturer's works for the following acceptance test but not limited to the same. Any other tests as per standard available or valid report from National (Govt.) / International Accredited Lab may be carried out as per the direction to substantiate any parameters as mentioned in this tender document.

A. LED Luminaries:

- Safety Test for LED Modules & Drives:
 - I. Provision for protective earthing test, Protection against accidental contact with live parts test.
 - II. Resistance to Humidity test
 - III. Insulation Resistance Test
 - IV. High Voltage test
 - V. Over-Voltage protection Test.
 - VI. Surge Protection.
 - VII. Reverse Polarity Test.
 - VIII. Temperature Rise Test.
 - IX. Ingress Protection Test.
 - X. Impact Protection Test.
 - XI. Construction compliance Test
 - XII. Creepage & Clearance Test.
 - XIII. Screws and current carrying parts connections test.
- Performance Test for LED Modules:
 - I. In put Power Consumption test.
 - II. Luminous Flux output test.
 - III. Luminous Intensity Distribution test.
 - IV. Peak Intensity value test.
 - V. Efficacy test.
 - VI. Chromaticity tolerance Initial & maintained.
 - VII. Correlated Color Temperature initial and maintained.
 - VIII. Color Rendering Index initial and maintained.
- Performance & Immunity Test for LED Drivers:
 - I. Basic input/output at nominal, minimum and maximum loads.
 - II. Switching test.
 - III. Input Voltage vs Power Factor test.
 - IV. Input Voltage vs THD.
 - V. Driver efficiency test
 - VI. Burst/Fast Transient test.
 - VII. Voltage Dips & Short Interruption test.

- Visual and Dimensional Check.
- Destructive test for checking of potting of driver.

[DULY FILLED IN “Annexure-G” IS TO BE SUBMITTED BEFORE PRE-DISPATCH INSPECTION TEST.]

B. High mast Towers & Street Light Poles: The High mast Towers and Street Light Poles shall also be inspected by KoPT officials at manufacturer’s premises after submission of the GA drawing and design calculation sheet by the L-1 bidder which needs to be approved by this department. Inspection shall be done as per technical specifications & standards available.

The bidder needs to submit following documents for necessary approval before required test at manufacture’s premises:

Sl. No.	Description	Supporting Document Required
1	Drawing of High Mast Tower showing Lantern carriage, luminaries & its driver units (for non-integral fitting) for both Symmetrical & Asymmetrical formation, position of power tool, winch, wire rope etc.	GA drawing clearly showing all the equipment of High Mast Tower.
2	Design calculation regarding 25 meter High Mast Tower conforming Technical Specifications	Detailed structural design and foundation drawing with design calculation sheet from manufacturer.
3	Maximum load operated by the winch.	Type Test Certificate for the winch
4	Stainless steel breaking capacity & other details as per Technical Specifications	Type Test Certificate for the winch from Govt. Approved Test House.
5	High Mast Foundation Design details along with drawing as per Technical Specifications.	GA drawing for foundation of High Mast Tower along with design calculation from manufacturer and wind tunnel test report on Mast Structure from Govt. approved test house.

C. LT Panels & Feeder Pillar Boxes: The pillar boxes along with the LT panels shall also be inspected at manufacture’s premises by KoPT officers after submission of the GA drawing, List of Materials with make etc. by the bidder and after they get approved by KoPT officials. Inspection shall be done as per technical specifications & standards available.

D. **Cables:** Cable length above 1000 meter (in total) will be inspected by KoPT officials at manufacturer's premises. Inspection will be carried out as per relevant Standard / Technical Specification. Manufacturer's Test and guarantee certificate as applicable will have to be submitted before conducting of inspection.

NOTE: Inspection and testing will be carried out by KoPT Engineer. Inspection will be carried out as applicable as per relevant Standard / Technical Specification / Approved Drawing etc. Manufacturer's Test and guarantee certificate as applicable will have to be submitted for verification. High voltage, Insulation Resistance, Earth Continuity and Earth Resistance tests etc. as applicable prior to commissioning are to be carried out for electrical installation including LT cable (if any). All pre commissioning tests shall be carried out by the authorized representative of the firm having valid Supervisor's Certificate of Competency

KoPT shall have full liberty from time to time and at all times to inspect examine and test the materials at site or at manufacturers' premises and also the work and workmanship and shall at any and every such time, reject any or all of the materials of workmanship, which may seem to them defective or unfit or improper for the purpose to which they are applied or intended to be applied to or not in accordance with the description mentioned in or intended by the specification of the Contractor. The Engineer reserves the right to waive inspection at Manufacturer's premises (witnessing tests) or to inspect (physically) the materials at site, against Manufacturer's Internal Test Certificate & Guarantee Certificate as applicable

Inspection of the items to be supplied by the contractor will be carried out by the Engineer or his representative prior to dispatch. Inspection of cables, High Mast and LED luminaries, Feeder Pillar Box etc. will be carried out by KoPT officials at Manufacturer's premises. Cost of carrying out inspection at manufacturer's premises is in the scope of contractor and thus should be considered by them in their schedule of rates.

CODES & STANDARD

Applicable Indian standards and/or IEC standards with latest edition are as follows but not limited to the only ones. Other relevant codes are as per Technical Specifications and standard norms:

IEC 61347-2-13	Particular Requirements for DC or AC supplied electronic control gear for LED modules
IEC 62384	DC or AC supplied electronic control gear for LED modules-Performance requirements.
CISPR 15	Methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
IEC 61547	Equipment for general lighting purposes-EMC immunity requirements.
IEC 60598 & IS 10322-1	General Requirements & Tests
EN 62471 / IS 16108:2012	Photo biological Safety of Lamps and Lamp Systems
IESNA LM-79-08	IES Approved Method For The Electrical And Photometric Measurements Of Solid-State Lighting Products
IESNA LM-80-08	IES Approved Method: Measuring Lumen Maintenance Of LED Light Sources
ANSI C78.377-2008	Specifications For The Chromaticity Of Solid State Lighting Products
IS/ IEC 60529	Classification of degrees of protection provided by enclosures of electrical equipment
IS 15885	Safety of Lamp Control gear, Part 1: General Requirements Safety of Lamp Control gear, Part 2: Particular Requirements, Section 13: d.c. Supplied Electronic Control gear for LED Modules
TR. No. – 7	High Masts for Lighting and CCTV (2000 edition) of ILE, U.K
SABS 0225:1991	High Mast natural frequency calculation
IS 875 Part – 3	Wind Loading
BS EN 10025:1993	High Tensile Steel Sheets
IS 2062	Mild Steel
BS EN ISO 1461	Galvanization
IS 3459 / 2266	Stainless steel Wire rope
IS 9968 Part – 1	Trailing Cable
IS 325	Motor

PREAMBLE TO THE BILL OF QUANTITIES

Notice Inviting Tender No.: KoPT/KDS/Mech/SE-II/ADV/537 dated 22.08.2019

1. The Bill of Quantities must be read with the General Conditions of Contract, the Special Conditions of Contract and the Particular Specifications of Work and the Bidder is deemed to have examined the above documents and to have thoroughly familiarize himself with the total scope of work and its mode of execution.
2. The quantities given in the Bill of Quantities are approximate only and are given to provide a common basis for tendering. Payment will be made according to the quantities of each item of work actually carried out at the accepted rates as per Order Letter. The measurements of each item of work shall be measured jointly by the Engineer or his Representative.
3. General direction and description of work or materials given elsewhere in the contract documents are not necessarily repeated in the description of items in the Bill of Quantities.
4. The percentage rates entered by the Contractor in the Bill of Quantities shall be deemed to cover the complete and finished work, inter-alia, all costs and expenses which may be required for successful completion of the works together with all risks, liabilities, contingencies, insurance, octroi, royalties, taxes and obligations imposed or implied by the Contractor.
5. Where separate items such as mobilization, demobilization, temporary works etc., have not been provided in the Bill of Quantities for works required under the Contract, then the cost of such works shall be deemed to have been included in the prices and rates of other items.
6. Without affecting the generality of the foregoing provisions, the prices entered in the Bill of Quantities by the Contractor shall include inter-alia, all costs and expenses involved in or arising out the followings:
 - a. The provision, storage, transport, handling, use distribution and maintenance of all materials, plans, equipment machineries and tools including all costs, charges dues demurrages or other outlays involved in the transportation.
 - b. The provision and maintenance of all his staff and labours and their payments, accommodation, transport, taxes and other requirements.
 - c. Setting out including measurement and supervision.
 - d. The provision, storage, transport, use handling, distribution and maintenance of consumable stores, fuel.
 - e. All First Aid, Welfare and safety requirements.
 - f. Damage caused to the works, plants, materials and consumables stores caused by weather.
 - g. License, fees and other charges for compliance of Government Acts and Rules that are in force and applicable.

7. The Contractor should be held responsible for the safe custody of materials, machineries etc. at site procured by him or issued to him by the Trustees.

8. This being a **percentage rate tender**, the Bidder shall quote his rates as percentage **above /below / at par** with the estimated amount put to tender on line based on his own analysis. The Tender Price thus established would be taken for comparative evaluation of E-Tenderers.

PRICE BID / Bill of Quantity (BOQ)

Name of the location:		Illumination of Coal Statcking Yard at Alifnagar, 13 &14 NSD Berth, NSD, KoPT			
Sl. No.	Description of Items	Qty.	Unit	Unit rate (Rs.)	Amount (Rs.)
1	Supply of LT panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with powder coating in approved shade, having suitable capacity extensible type TPN high conductivity electrolytic tinned Copper bus bars, bus bar supports, with short circuit withstand capacity of 50kA for 1 Sec, bottom base channel of MS Section not less than 100 mm X 50 mm X 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have to be installed with the existing panel and also having copper earth bar of size 25 mm x 5 mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Cu. bus bars and control wiring, indication etc. with 2.5 sq. mm. FRLS PVC insulated copper conductor, cable alleys, cable gland plates in two half & providing following switch gears:				
	(I) Incomer(1 No.) and outgoings(2 Nos.): 630 Amps 4 pole, horizontal Electrical drawout type air circuit breaker of fault breaking capacity 50 kA for 1 sec. (Ics=Icu) upto 433 V , fitted with interlocked door, automatic safety shutters, mechanical ON / OFF and service/ test/ isolated position indicators and frame earthing contact, Power Supply Module, complete with following accessories: (a) Independent manual spring closing mechanism- 3 Nos. (b) Microprocessor release with: 1. Overload & Short Circuit Protection 2. Instantaneous Current Protection 3. Neutral & Ground Fault Protection 4. LCD Digital Display with Thermal Memory & Last Fault Trip History 5. True RMS sensing etc. - 3 sets. (c) Digital type Voltmeter (0-500 V), with selector switch & back up MCBs-1 set (for Incomer). (d) Digital type Ammeter (0-600Amp), with selector switch and three sets of 3 nos. CT's of ratio 600/5A (or suitable ratio) Class I accuracy and 15VA burden- 3 sets. (e) Multi Functional Meter-3 sets. (f) 3 nos. / ACB Phase indication LED lamps with 2 Amp back up HRC fuse, breaker 'ON' & 'OFF' indicating light with 2 A HRC fuse, fuses, circuits as	1	Set	560,253.00	560,253.00

	per standard practice, auxiliary contacts for positive interlocking of the breakers as required. (g) Shunt trip coil 220 V A.C. (h) Main CTs should be resin cast suitable for microprocessor based ACB. (i) AC / Dc charging motor (j) anti pumping relay (k) Power Supply Module (h) Other accessories to complete the panel in all respect.				
2	Installation, testing & commissioning of the above LT Panel along with double earthing arrangement. The Panel shall be installed on floor with foundation bolts. The cables to be tightened with cable glands through gland plates fitted under the panel. Adequate support system and fixtures to be given for mechanical strength by suitable arrangements and should be connected to the earth system with the help of spring washers, thimbles etc. to secure from contact. Necessary modification and connections with existing LT Panel at Sub-Station are to be considered. All the incomer & outgoing feeders, bus bar chambers etc. must be suitably marked (as per EIC) which should have proper durability. Suitable size danger plate should be installed.	1	set	14,006.33	14,006.33
3	Supply of 4C, 16 sq mm XLPE insulated Armoured Al cable	200	Mtr	128.25	25,650.00
4	Laying of the above LT cables on the structures of lattice Tower including S & F of MS saddles and for High Mast Lighting.	200	Mtr	60.00	12,000.00
5	Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of the above XLPE armoured cable.	28	nos	132.00	3,696.00
6	Finishing the end of the above XLPE armoured cables by crimping method incl. supplying and fixing solderless socket(Dowels make), tapes, anticorrosive paste & jointing materials.	28	set	95.00	2,660.00
7	Supply of 3.5C, 185 sq mm XLPE insulated armoured Al cable	2000	meter	759.00	1,518,000.00

8	Laying of the cable through existing cable trench.	2000	meter	136.00	272,000.00
9	Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of the above XLPE armoured cable.	24	Nos	394.00	9,456.00
10	Finishing the end of the above XLPE armoured cables by crimping method incl. supplying and fixing solderless socket(Dowels make), tapes, anticorrosive paste & jointing materials.	24	Nos	546.00	13,104.00
11	Supply of dust,weather proof ,IP66 protected Double Door 4 way Distribution Board at the upper platform of each lattice tower having 10kA, C-Characteristics, 32A TP MCB as incomer and 12 Nos of 10kA, C-Characteristics, 10A SP MCB as outgoings incld. inner connection with copper wire & neutral link and provision for earthing arrangement.	3	No.	6,272.00	18,816.00
12	Supply of dust,weather proof ,IP66 protected Double Door 4 way Distribution Board at the middle platform of each lattice tower having 10kA, C-Characteristics, 32A TP MCB as incomer and 9 Nos of 10kA, C-Characteristics,of 10A SP MCB as outgoings incld. inner connection with copper wire & neutral link and provision for earthing arrangement.	3	No.	5,702.00	17,106.00
13	Installation of the DBs at the upper and middle platform with MS angles and proper clamping arrangement complete in all respect.	6	No.	230.00	1,380.00
14	Supply of 400W integrated / non-integrated LED Flood light Luminaries with secondary optics on upper and middle platform of Lattice towers, including suitable potted smart driver as mentioned in the technical spec.	60	No.	28,214.00	1,692,840.00
15	Installation of the aforesaid LED luminaries and its accessories with proper clamping arrangement etc. complete in all respect.	60	No.	543.00	32,580.00

16	Wiring with 1.1 kV grade 3 X 2.5 sqmm PVC insulated FRLS PVC round sheathed flexible cable of suitable copper conductor for wiring of the luminaries of Lattice towers from DB at each platform i/c terminations and all other accessories complete in all respect.	300	mtr	107.00	32,100.00
17	Design & Supply of 25M high mast tower made of HT Steel as per BSEN 10025 , in three sections (with only one longitudinal seam weld per section) suitable for 55 m/sec wind speed, with raising lowering system comprising, head frame, lumiaries carriage suitable to install 12 nos. Integrated / Non-integrated 400 Watt luminaries ,winch drum, 6mm diameter SS wire rope, trailing cable, connector, integral power tool motor, manual handle, junction box, lightening finial. Also Wiring material, power cables between panel and mast & its termination, MCBs in base compartment for double circuit. luminary mounting bolts etc. are also to be included.	8	No.	275,267.00	2,202,136.00
18	Supply of foundation bolts manufactured from steel along with nuts, washers, achor plate and template, as per technical specification.	8	Sets	12,616.00	100,928.00
19	Construction of shallow foundation with M20 grade concrete for High Mast considering the safe soil bearing capacity at site with materials and labour. (Consider the site conditions to be concrete structure/ old steel structure/ hard & rocky material below / on the surface area inside dock premises during excavation for foundation work)	8	No.	61,625.00	493,000.00
20	Erection of the high mast with the help of suitable tools and plants.	8	No.	19,918.00	159,344.00
21	Providing 2.5 meter Rail guard around each high mast tower and associated feeder pillar box by fencing the area with the rail, up to a height of 1.5 meter above ground level with suitable foundation from incurring damaged from a vehicle. 16 nos. such rail guard having 1.5 meter height above ground level are to be erected per set covering 4m x 4m. area arround HMT.	8	set	49,100.00	392,800.00

22	Supply of 400 W , integrated / non-integrated LED floodlight luminarie with secondary optics made in pressure die cast housing and heat sink in Aluminum extrusion with IP 66 protection complete in all respect including mounting clamps and bolts including suitable potted smart driver as per technical spec. etc	96	No.	28,214.00	2,708,544.00
23	Supply, delivery & Installation of one no suitable LED Aviation obstruction light (including lamp of red colour and other accessories) of suitable design and reputed make and has to be provided on top of each high mast tower.	8	Nos	3,928.57	31,428.56
24	Installation and commissioning of 400W , LED floodlight luminarie along with all its accessories on high mast with proper camping arrangement etc. complete in all respect.	96	nos	543.00	52,128.00
25	Wiring with 1.1 kV grade 3 X 2.5 sqmm PVC insulated FRLS PVC round sheathed flexible cable of suitable copper conductor for wiring of the luminaries of High Mast towers i/c terminations and all other accessories complete in all respect.	300	mtr	107.00	32,100.00
26	Supply and delivery of Stand Alone Feeder Pillar Box, made from 3.15 mm thick CRCA sheet with GI angle Frame, double flap Hinged Door, both in front & rear sides with stiffeners, Handle complete with integral canopy and panel lock. The Feeder Pillar Box will be suitable for outdoor installation (having IP66 protection). Completely fabricated Feeder Pillar Box will be Hot Dip Galvanized (Min mean coating 610g/sq. m. or 85 µm). 2 Nos. Panel Keys will be provided. Door sealing arrangement to be made with Neoprene Rubber Gasket of thickness not less than 3mm. Cable(s) entry will be from bottom only through detachable type Gland Plate (made from 3.15 mm thick GI Sheet) with punched holes, suitable for 2 Nos. 3.5 cores x 185 sq. mm. XLPE insulated LT Al Cables, 1 No. 3 cores x 6 sq. mm, XLPE insulated LT Al Cable. Earth Bus will be made from G. I. Flat strip of size 50 x 6mm. Electrolytic grade tinned copper bus of size – 50 x 6mm for each phase and Neutral will have to be provided. Inner connections between Bus-Bars and components are to be made by Electrolytic grade tinned copper flat / 1.1KV grade insulated copper conductors of suitable size, along with tinned copper	1	No.	59,963.00	59,963.00

	lugs. i) Incomers: 50KA, 415V AC, 160A, 4P MCCB of adjustable thermal & adjustable magnetic setting-2 Nos. ii) Outgoings: A) 35KA, 415V AC, 63A, 4P MCCB of fixed thermal & fixed magnetic setting-1 No. B) 10KA, 240V AC, 6-32A DP MCB-1 No. (To light pole) iii) Astronomical Electronic Time Switch (with rechargeable battery backup) – 1 No. iv) Bypass Switch with contactor unit – 1 No. v) Electrolytic grade tinned copper bus: 50 x 6mm (Size) for each phase and Neutral. Mechanical Interlock between two Incomers. 2 Nos. full threaded GI Bolts (M 10 x 40mm) along with G.I. Nuts & washers are to be provided on two sides of the Feeder Pillar Box as Earth Stud.				
27	Supply and delivery of Feeder Pillar Box, which will be made from 3.15 mm thick CRCA sheet with GI angle Frame, double flap Hinged Door, both in front & rear sides with stiffeners, Handle complete with integral canopy and panel lock. The Feeder Pillar Box will be suitable for outdoor installation (having IP66 protection). After completion of total fabrication work of the Feeder Pillar Box, the assembly will be Hot Dip Galvanized (Min mean coating 610g/sq. m. or 85 µm). 2 Nos. Panel Keys are to be provided with each Feeder Pillar Box. Door sealing arrangement are to be made with Neoprene Rubber Gasket of thickness not less than 3mm. Cable(s) entry will be from bottom only for which detachable type Gland Plate (made from 3.15 mm thick GI Sheet) with punched holes suitable for 2 Nos. 3.5 cores x 185 sq. mm. XLPE insulated LT Al Cables, 1 No. 4 cores x 16 sq. mm, XLPE insulated LT Al Cable & 1 no. 3C 4 sq. mm. Al XLPE cable shall be provided. The Feeder Pillar Box will have Earth Bus made from G. I. Flat of size 50 x 6mm. Electrolytic grade tinned copper bus of size – 50 x 6mm for each	8	No.	71,330.00	570,640.00

	phase and Neutral will have to be provided. Inner connections between Bus-Bars and the components are to be made by Electrolytic grade tinned copper flat / 1.1KV grade insulated copper conductors of suitable size, along with tinned copper lugs. i) Incomers: 50KA, 415V AC, 160A, 4P MCCB of adjustable thermal & adjustable magnetic setting, Ics=100%Icu incld. phase barriers-2 Nos. ii) Outgoings: 35KA, 415V AC, 63A, 4P MCCB of fixed thermal & fixed magnetic setting incld. phase barriers-2 Nos. iii) 50 A (AC1 Duty) 415 V 32A 3P Contactor-1 No. iv) 25 A (AC1 Duty) 415 V 9A 3P Contactor-2Nos. iv) Astronomical Electronic Time Switch (with rechargeable battery backup) – 1 No. v) Bypass Switch – 1 No. vi) Push Button for raising and lowering the carriage of HMT-2 Nos. vii) Control 10 kA, 6A MCB- 2 Nos. viii) Indicating Lamps for R,Y,B Phases for both the incomers. ix) All other accessories complete in all respect The enclosure shall be suitable for IP – 66 Protection. 2 Nos. full threaded GI Bolts (M 10 x 40mm) along with G.I. Nuts & washers are to be provided on two sides of the Feeder Pillar Box as Earth Stud. Two Nos. Danger Boards are to be provided on the Front Door and Back Door of the Feeder Pillar Box.				
28	Construction of RCC foundation for the above Feeder Pillar Boxes including supply of foundation accessories consisting of cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials, labour etc. complete and refilling of earth upto the existing ground level after curing and as per technical specifications.	9	No.	3,698.00	33,282.00
29	Installation of the above High Mast Feeder Pillar & Stand Alone Pillar box by grouting the stand in concrete.	9	No.	2,123.00	19,107.00
30	Supply of 300W integrated symmetrical LED Flood light Luminaries with secondary optics to be installed on 410 SP 49 pole double arm top, including suitable potted driver as mentioned in the technical spec.	2	No.	22,000.00	44,000.00

31	Installation of above fixtures on top of double arm of 410 SP 49 light pole including supply & connection with 3C 6 sq. mm. Al XLPE insulated cable from nearest Pillar Box / Loop in Loop Out box incld. Finishig of cable end etc. complete in all respect.	1	set	2,146.00	2,146.00
32	Supply & delivery at site 11meter high GI Street light Pole of type 410 SP 49 with GI Cross arm fitted, suitable for installing two integral type 300 watt luminaries. The Pole should be fitted with loop in loop out box in sheet steel lockable enclosure at suitable height and with base plate and cap. (Cost of the loop in loop out box not to be included here)	1	No.	17,550.00	17,550.00
33	Erection of Single Steel tubular pole of 11meter length with sole plate & Cap etc. in CC foundation (Proportion and dimension indicated below), having 600x600x150 mm thick CC (4:2:1) base block below sole plate / pole with hard jhama metal including CC (6:3:1) muffing 0.30 mts. dia and 0.30 mts. above ground level including 3 mm thick neat cemented finish and GI earth bolt after making drilled holes etc. on pole including filling up the excavated earth pit with shifted soil and ramming properly and S & F of 2x2.5 sq. mm. + 1x1.5 sq. mm. single core stranded PVC insulated Cu wire for connection from LILO(Loop-In-Loop-Out) box to luminaries incld. finishing etc. complete in all respect. All the poles shall be properly earthed with spike electrodes of 1.5 mtr length incld. S & F of GI Spike Electrode and S & F of 8 SWG GI Earth wire of suitable length.	1	No.	3,355.00	3,355.00
34	Painting of Steel Tubular Pole, arm etc. above 9 m length and 2 no. of coats of aluminium paint, over 1 coat of RO primer incl. preparation of surface by sand paper / emery paper, cleaning etc. for receiving fresh coat of paint.	1	per pole	619.00	619.00

35	Supplying & Fixing waterproof type GI looping cable box size 200x150x100 mm deep having 4 mm thick comprising of one 250 V 15 A kit-kat fuse unit, one compression type brass cable gland for upto 3- core 6 sq mm XLPE/ Al cable and having lined with rubber gasketed top cover with brass machine screws etc., earthing terminal with lug, on steel tubular pole near base, including S&F 40x6 mm thick, GI clamps with bolts, nuts etc.	1	No.	1,913.00	1,913.00
36	Earthing with 50 mm dia ISI Medium GI pipe 3.64 mm thick x 3.00 Mts. long and 1 x 4 SWG GI (Hot Dip) wire (4 Mts. long), 13 mm dia x 80 mm long GI bolts, double nuts, double washers incl. S & F 15 mm dia GI pipe protection (1 Mts. long) to be filled with bitumen partly under the ground level and partly above ground level driven to an average depth of 3.65 Mts. below the ground level and also providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work(1:6) of 25 cm width duly plastered with cement mortar (inside) CI hinged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos. 12 mm dia holes on the GI pipe and treating of soil by using salt and charcoal as required. (2 nos. for each pillar box & 2 nos. for each high mast and 2nos. For each lattice tower)	38	Nos	2,815.00	106,970.00
37	Interconnection of the earth pit and connecting the equipments body to earth electrode station including Supply & Fixing of 25 mm X 6mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	400	Meter	138.00	55,200.00
38	Connecting the DBs at Upper and Middle platform of Lattice Tower to earth electrode station including Supply & Fixing of 25 mm X 6 mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	200	Meter	138.00	27,600.00
39	Dismantling of one no. damaged HMT and handing over to EE, NSD.	1	Lot	10,000.00	10,000.00

40	Dismantling of DBs from Lattice tower middle and upper platform and handing over to EE, NSD.	1	Lot	5,000.00	5,000.00
Sub Total 1 (Rs.)=					Rs.1,13,55,401.00

Name of the location:		Illumination at proposed container parking yard at the east side of CFS building, NSD			
Sl. NO	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
41	Supply of 4C, 16 sq mm XLPE insulated Armoured AI cable	50	Mtr	128.25	6412.50
42	Laying of the above LT cables through the structures of lattice Tower	50	Mtr	60	3000
43	Termination of 4C,16sqmm cable	4	nos	227	908
44	Supply of 3.5C, 120 sqmm XLPE insulated armoured AI cable	500	meter	370	185000
45	Laying of the cable through existing cable trench / HDPE pipe	500	meter	96	48000
46	Termination of the above cable	16	sets	655	10480
47	Supply of Feeder Pillar Box at the base of lattice tower near gate no 8 of NSD having 63A TP MCB as incomer and 3 Nos of 32A TP MCB as outgoing with copper bus bars and timer arrangemnet	1	Nos	5627	5627
48	Installation of the pillar box at the base of the lattice tower including supply of foundation accessories consisting of cement, bricks, sand, stone chips, labour etc. complete and mending good damages	1	Nos	500	500
49	Supply of dust,weather prrof ,IP66 protected Distribution Board at the upper and middle platform of each lattice tower having 32ATP MCB as incomer and 12Nos of 16A SP MCB as outgoing	2	Nos	4032	8064
50	Installation of the DB at the upper and middle platform with MS angles and proper clamping arrangement	2	Nos	230	460
51	Supply of 400W integrated / non-integrated LED Flood light Luminaries on each of upper and middle platform of Lattice towers in near gate no 8 of NSD	18	Nos	28214	507852

52	Installation of the aforesaid LED luminaries with proper clamping arrangement	18	Nos	543	9774
53	Wiring in FR Rigid conduit with 2 X 2.5 sqmm FRLS Stranded copper wire 1X1.5 sqmm FRLS copper wire as ECC for wiring of the luminaries from DB at each platform	200	metr	119	23800
54	Supply and delivery at site Pillar Box with the following accessories: Incomer -250A ,35KA FP MCCB --1 Nos Outgoing-125A,35KA, FP MCCB -3 Nos Copper Bus Bar-For 3 phase ,neutral and Earth bus bar with suitable size.	2	nos	43899	87798
55	Installation of the pillar box by proper arrangement including supply of foundation accessories consisting of cement, bricks, sand, stone chips, labour etc. complete and mending good damages	2	Nos	2000	4000
56	Supply of 25M high mast shaft made of HT Steel of grade S355J0 as per BSEN 10025 , in three sections suitable for 55 m/sec wind speed, with raising lowering system comprising, head frame, lumiaries carriage suitable to install 12 nos. luminaries ,winch drum, 6mm diameter SS wire rope, trailing cable, connector, integral power tool motor, manual handle, junction box, lightening finial. Also Wiring material, power cables between panel and mast, MCB in base compartment. luminary mounting bolts, counter weight (if needed for asymmetrical tower) are also to be included	6	nos	275,267	1651602
57	Supply of foundation bolts manufactured from special steel along with nuts, washers, achor plate and template	6	Sets	12616	75696
58	Supply of 400 W , integrated / non-integrated LED floodlight luminarie with secondary optics made in pressure die cast housing and heat sink in Aluminum extrusion with IP 66 protection complete in all respect including mounting clamps and bolts etc	60	nos	28,214.00	1692840

59	Supply and delivery of one no twin dome suitable neon spiral Aviation obstruction light (including lamp of red colour and other accessories) of suitable design and reputed make and has to be provided on top of high mast	6	Nos	3493	20958
60	Supply of outdoor stand mounted feeder pillar with 2 nos of 63A TPN MCBs incomer, 2 No 125A FP MCCB (loop in out loop out system) , single dial time switch, 45A TP contactor for the automatic switching of luminaries, power tool control with 2 no. 9A contactors and raise lower push button. Incoming 35 sq.mm. and out going 16 & 2.5 sq.mm. terminals for each High mast	6	nos	34836	209016
61	Construction of shallow foundation with M20 grade concrete for High Mast considering the safe soil bearing capacity at site with materials and labour	6	nos	61625	369750
62	Erection of the high mast with the help of suitable tools and plants, wiring of luminaries with all wiring materials like PVC insulated PVC sheathed flexible cable of suitable copper connector cores of 1.5 sq.mm. lugs, MCB and all labour.	6	nos	19918	119508
63	Installation and commissioning of 400W , LED floodlight luminarie on high mast	60	nos	543	32580
64	Installation of the High Mast feeder pillar by grouting the stand in concrete	6	nos	2423	14538
65	Provision of GI pipe earthing for High mast with 3 M long 50 mm dia GI Pipe including providing masonry earth enclosure and treatment with charcoal and salt (2 nos. for each pillar box, 2 nos. for each lattice tower pillar box and 2 nos. per each high mast)	18	Nos	2970	53460
66	Interconnection of the earth pit and connecting the equipments body to earth electrode station including Supply & Fixing of 25 mm X 6mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	150	Meter	138	20700

67	Connecting the DBs at Upper and Middle platform of Lattice Tower to earth electrode station including Supply & Fixing of 20 mm X 3 mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	75	Meter	92	6900
68	Dismantling of Existing old Pillar Box and existing luminaries from the Lattice Tower and handing over to EE, NSD.	1	Lot	2000	2000
Sub Total 2 (Rs.)=					51,71,224.00
Name of the location:		IIIllumination at BISN Area, 8 NSD Gate, 3 NSD & KPD-I Reefer Park			
Sl. NO	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
69.	Supply of 3.5C,35 sq mm , 1.1KV , XLPE insulated armoured Al cable	1500	Mtr	314	471000
70.	Laying of the above LT cables through existing trench/HDPE Pipe	1500	Mtr	96	144000
71.	Termination of the above cable	18	Nos	406	7308
72.	Supply of 4C, 16 sq mm XLPE insulated Armoured Al cable	200	Mtr	128.25	25650
73.	Laying of the above LT cables through the structures of lattice Tower	200	Mtr	60	12000
74.	Termination of 4C,16sqmm cable	12	nos	227	2724
75.	Supply of 3.5C, 240sqmm XLPE insulated armoured Al cable	700	meter	1584	1108800
76.	Laying of the cable through existing trench/HDPE pipe	700	meter	136	95200
77.	Termination of the above cable	8	Nos	1141	9128
78.	Supply of Feeder Pillar Box at the base of lattice tower in KPD-I (West) having 63A TP MCB as incomer and 3 Nos of 32A TP MCB as outgoing with copper bus bars and timer arrangemnet	3	Nos	5627	16881
79.	Installation of the pillar box at the base of the lattice tower including supply of foundation accessories consisting of cement, bricks, sand, stone chips, labour etc. complete and mending good damages	3	Nos	500	1500
80.	Supply of dust,weather prrof ,IP66 protected Distribution Board at the upper and middle platform of each lattice tower having 32ATP MCB as incomer and 12Nos of 16A SP MCB as outgoing	6	Nos	4032	24192
81.	Installation of the DB at the upper and middle platform with MS angles and proper clamping arrangement	6	Nos	230	1380

82.	Supply of 400W integrated/ non-integrated LED Flood light Luminaries on each of upper and middle platform of Lattice towers in KPD-I (West)	54	Nos	28214	1523556
83.	Installation of the aforesaid LED luminaries with proper clamping arrangement	54	Nos	543	29322
84.	Wiring in FR Rigid conduit with 2 X 2.5 sqmm FRLS Stranded copper wire 1X1.5 sqmm FRLS copper wire as ECC for wiring of the luminaries from DB at each platform	500	metr	119	59500
85.	Supply of 250A, 50KA, FP MCCB in sheet steel enclosure	1	Nos	17025	17025
86.	Installation of the above MCCB at D-Berth Sub station	1	Nos	500	500
87.	Supply and delivery at site Pillar Box with the following accessories: Incomer -250A ,35KA FP MCCB --1 Nos Outgoing-63A,35KA, FP MCCB -4 Nos Copper Bus Bar-For 3 phase ,neutral and Earth bus bar with suitable size.	3	nos	51473	154419
88.	Installation of the pillar box by proper arrangement including supply of foundation accessories consisting of cement, bricks, sand, stone chips, labour etc. complete and mending good damages	3	Nos	2000	6000
89.	Supply of 25M high mast shaft made of HT Steel of grade S355J0 as per BSEN 10025 , in three sections suitable for 55 m/sec wind speed, with raising lowering system comprising, head frame, lumiaries carriage suitable to install 12 nos. luminaries ,winch drum, 6mm diameter SS wire rope, trailing cable, connector, integral power tool motor, manual handle, junction box, lightening finial. Also Wiring material, power cables between panel and mast, MCB in base compartment. luminary mounting bolts, are also to be included	9	nos	275,267	2477403
90.	Supply of foundation bolts manufactured from special steel along with nuts, washers, achor plate and template	9	Sets	12616	113544
91.	Supply of 400 W , integrated/ non-integrated LED floodlight luminarie with secondary optics made in pressure die cast housing and heat sink in Aluminum extrusion with IP 66 protection complete in all respect including mounting clamps and bolts etc	108	nos	28214	3047112

92.	Supply and delivery of one no twin dome suitable neon spiral Aviation obstruction light (including lamp of red colour and other accessories) of suitable design and reputed make and has to be provided on top of high mast	9	Nos	3493	31437
93.	Supply of outdoor stand mounted feeder pillar with 2 nos of 63A TPN MCBs incomer, single dial time switch, 45A TP contactor for the automatic switching of luminaries, power tool control with 2 no. 9A contactors and raise lower push button. Incoming 35 sq.mm. and out going 16 & 2.5 sq.mm. terminals for each High mast	9	nos	24836	223524
94.	Construction of shallow foundation with M20 grade concrete for High Mast considering the safe soil bearing capacity at site with materials and labour	9	nos	61625	554625
95.	Erection of the high mast with the help of suitable tools and plants, wiring of luminaries with all wiring materials like PVC insulated PVC sheathed flexible cable of suitable copper connector cores of 1.5 sq.mm. lugs, MCB and all labour.	9	nos	19918	179262
96.	Installation and commissioning of 400W , LED floodlight luminarie on high mast	108	nos	543	58644
97.	Installation of the High Mast feeder pillar by grouting the stand in concrete	9	nos	2423	21807
98.	Provision of GI pipe earthing for High mast with 3 M long 50 mm dia GI Pipe including providing masonry earth enclosure and treatment with charcoal and salt (2 nos. for each pillar box, 2 nos. for each lattice tower pillar box and 2 nos. per each high mast)	30	Nos	2970	89100
99.	Interconnection of the earth pit and connecting the equipments body to earth electrode station including Supply & Fixing of 25 mm X 6mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	350	Meter	138	48300

100.	Connecting the DBs at Upper and Middle platform of Lattice Tower to earth electrode station including Supply & Fixing of 20 mm X 3 mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	200	Meter	92	18400
101.	Dismantling of Existing old Pillar Box and existing luminaries from the Lattice Tower and handing over to EE, KPD.	1	Lot	2000	2000
Sub Total 3 (Rs.)=					1,05,75,243.00

Name of Location:		IIIllumination of Coal Berth, KPD-II, KoPT			
Sl. No.	Description of Items	Qty.	Unit	Unit rate (Rs.)	Amount (Rs.)
102.	Supply of LT panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with powder coating in approved shade, having following capacity extensible type TPN high conductivity electrolytic tinned Copper bus bars, bus bar supports, with short circuit withstand capacity of 50kA for 1 Sec, bottom base channel of MS Section not less than 100mm X 50mm X 5mm thick, fabrication shall be done in transportable sections, entire panel shall have to be installed with the existing panel and also having copper earth bar of size 25 mm x 5 mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Cu. bus bars and control wiring, indication etc. with 2.5 sq. mm. FRLS PVC insulated copper conductor, cable gland plates in two half & providing following switch gears:				

(I) Incomer(1 No.): 630 Amps 4 pole, horizontal Electrical drawout type air circuit breaker of fault breaking capacity 50 kA for 1 sec. (Ics=Icu) upto 433 V , fitted with interlocked door, automatic safety shutters, mechanical ON / OFF and service/ test/ isolated position indicators and frame earthing contact, Power Supply Module, complete with following accessories: (a) Independent manual spring closing mechanism- 1 No. (b) Microprocessor release with: 1. Overload & Short Circuit Protection 2. Instantaneous Current Protection 3. Neutral & Ground Fault Protection 4. LCD Digital Display with Thermal Memory & Last Fault Trip History 5. True RMS sensing 6. Fault Indication etc. - 1 set. (c) Digital type Voltmeter (0-500 V), with selector switch & back up MCBs-1 set (for Incomer). (d) Digital type Ammeter (0-600Amp), with selector switch and one set of 3 nos. CT's of ratio 600/5A (or suitable ratio) Class I accuracy and 15VA burden- 1 set. (e) Multi Functional Meter-1 sets. (f) 3 nos. / ACB Phase indication LED lamps with 2 Amp back up HRC fuse, breaker 'ON' & 'OFF' indicating light with 2 A HRC fuse, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers asrequired. (g) Shunt trip coil 220 V A.C. (h) Main CTs should be rasin cast suitable for microprocessor release based ACB. (i) AC / DC Charging Motor (j) Anti Pumping Relay (k) Power Supply Module (l) Other accessories necessary only to complete the panel in all respect.	1	Set	282,794.00	282,794.00
BUS Bar: TPN Tinned Copper bus bars having min size 60 mm x 10 mm with heat shrinkable coloured sleeves and i / c bus bar support with suitable spacing etc. for withstanding fault level of 50kA kA for 1 Sec.				

	Outgoing 1(For 2 High Mast Circuits+1 feeder pillar box): 3 No. Adjustable Overload (40-100%) & Adjustable shortcircuit (2-12 Ir) along with in built earth fault protection, microprocessor release 415V, 35kA, 160A, 4P, MCCB with thermal memory & LCD for measurement and last trip information. MCCB should have spreader terminals with extended rotary handle and phase barriers.				
	Outgoing 2(For 2 light pole circuits+2 motor feeder+1 spare): 3 No. 415 V,35kA, 4P, 63/65A MCCBs & 2 No. 415 V, 35 kA, 3P, 63/65A MCCBs having Adjustabel Thermal & Adjustable Magnatic Setting with extended rotary handle and phase barriers. Electronic timers along with 60 A (AC1 Duty) 415 V 40A 3P Contactor, control MCB etc must be provided for two outgoing street light feeders along with bypassing arrangement.				
	Outgoing 3(For station lighting+2 spare): 3 No. 6-32A 240V 10kA DP MCB of C Characteristics.				
	Three phase Digital Ammeter CI1.0 along with CTs, non illuminated selector switch, RYB Phase indication lamp for outgoing 1 & 2 along with other accessories necessary only to complete the panel in all respect.				
103	Installation, testing & commissioning of the above LT Panel along with double earthing arrangement. The Panel shall be installed on floor with foundation bolts. The cables to be tightened with cable glands through gland plates fitted under the panel. Adequate support system and fixtures to be given for mechanical strength by suitable arrangements and should be connected to the earth system with the help of spring washers, thimbles etc. to secure from contact. All the incomer & outgoing feeders, bus bar chambers etc. must be suitably marked (as per EIC) which should have proper durability. Suitable size danger plate should also be installed.	1	set	7,069.85	7,069.85
104	Supply of 4C, 25 sq mm XLPE insulated Armoured Al cable for street light pole	1250	Mtr	165.00	206,250.00
105	Laying of the cable through existing cable trench and for High Mast Lighting.	1250	Mtr	136.00	170,000.00

106	Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of the above XLPE armoured cable.	36	nos	162.00	5,832.00
107	Finishing the end of the above XLPE armoured cables by crimping method incl. supplying and fixing solderless socket(Dowels make), tapes, anticorrosive paste & jointing materials.	36	set	115.00	4,140.00
108	Supply of 3.5C, 185 sq mm XLPE insulated armoured AI cable	2000	mtr	759.00	1,518,000.00
109	Laying of the cable through existing cable trench.	2000	mtr	136.00	272,000.00
110	Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of the above XLPE armoured cable.	26	Nos	394.00	10,244.00
111	Finishing the end of the above XLPE armoured cables by crimping method incl. supplying and fixing solderless socket(Dowels make), tapes, anticorrosive paste & jointing materials.	26	Nos	546.00	14,196.00
112	Design & Supply of 25M high mast tower made of HT Steel as per BSEN 10025 , in three sections (only one longitudinal seam welding per section) suitable for 55 m/sec wind speed, with raising lowering system comprising, head frame, luminares carriage suitable to install 12 nos. Integrated / Non-integrated 400 Watt luminaires ,winch drum, 6mm diameter SS wire rope, trailing cable, connector, integral power tool motor, manual handle, junction box, lightening finial. Also Wiring material, power cables between panel and mast & its termination, MCBs in base compartment for double circuit. luminary mounting bolts etc. are also to be included.	12	No.	275,267.00	3,303,204.00
113	Supply of foundation bolts manufactured from steel along with nuts, washers, anchor plate and template, as per technical specification.	12	Sets	12,616.00	151,392.00

114	Construction of shallow foundation with M20 grade concrete for High Mast considering the safe soil bearing capacity at site with materials and labour. (Consider the site conditions to have concrete structure/old steel structure/hard & rocky soil below / on the surface area inside dock premises during excavation for foundation work)	12	No.	61,625.00	739,500.00
115	Erection of the high mast with the help of suitable tools and plants.	12	No.	19,918.00	239,016.00
116	Providing 2.5 meter Rail guard around each high mast tower and associated feeder pillar box by fencing the area with the rail, up to a height of 1.5 meter above ground level with suitable foundation from incurring damaged from a vehicle. 16 nos. such rail guard having 1.5 meter height above ground level are to be erected per set covering 4m x 4m. area around HMT including painting over primer.	12	set	49,100.00	589,200.00
117	Supply of 400 W , integrated /non-integrated LED floodlight luminarie with secondary optics made in pressure die cast housing and heat sink in Aluminum extrusion with IP 66 protection complete in all respect including mounting clamps and bolts including suitable smart potted driver as per technical spec. etc	144	No.	28,214.00	4,062,816.00
118	Supply, delivery & Installation of one no LED type suitable Aviation obstruction light (including lamp of red colour and other accessories) of suitable design and reputed make and has to be provided on top of each high mast tower.	12	Nos	3,928.57	47,142.86
119	Installation and commissioning of 400W , LED floodlight luminarie along with all its accessories on high mast with proper clamping arrangement etc. complete in all respect.	144	nos	543.00	78,192.00
120	Wiring with 1.1 kV grade 3 X 2.5 sqmm PVC insulated FRLS PVC round sheathed flexible cable of suitable copper conductor for wiring of the luminaries of High Mast towers i/c terminations and all other accessories complete in all respect.	500	mtr	107.00	53,500.00

121	Supply and delivery of Stand Alone Feeder Pillar Box, made from 3.15 mm thick CRCA sheet with GI angle Frame, double flap Hinged Door, both in front & rear sides with stiffeners, Handle complete with integral canopy and panel lock. The Feeder Pillar Box will be suitable for outdoor installation (having IP66 protection). Completely fabricated Feeder Pillar Box will be Hot Dip Galvanized (Min mean coating 610g/sq. m. or 85 µm). 2 Nos. Panel Keys will be provided. Door sealing arrangement to be made with Neoprene Rubber Gasket of thickness not less than 3mm. Cable(s) entry will be from bottom only through detachable type Gland Plate (made from 3.15 mm thick GI Sheet) with punched holes, suitable for 3 Nos. 3.5 cores x 185 sq. mm. XLPE insulated LT Al Cables, 1 No. 4 cores x 25 sq. mm, XLPE insulated LT Al Cable. Earth Bus will be made from G. I. Flat strip of size 50 x 6mm. Electrolytic grade tinned copper bus of size – 50 x 6mm for each phase and Neutral will have to be provided. Inner connections between Bus-Bars and components are to be made by Electrolytic grade tinned copper flat / 1.1KV grade insulated copper conductors of suitable size, along with tinned copper lugs. i) Incomers: 35KA, 415V AC, 160A, 4P MCCB of adjustable overload(80-100%) & adjustable short circuit (5-10 In) setting and Ics=100%Icu-2 Nos with mechanical interlock. ii) Outgoings: A) (For HMT Circuit) 35KA, 415V AC, 125A, 4P MCCB of adjustable overload(80-100%) & adjustable short circuit (5-10 In) setting, Ics=100%Icu and with earth fault protection-1 No. B) (1 Light Pole Circuit+1 Spare): 35KA, 415V AC, 40A, 4P MCCB of adjustable overload(80-100%) & fixed short circuit-2 Nos. iii) Astronomical Electronic Time Switch (with rechargeable battery backup) – 1 No. iv) Bypass Switch with 32 A (AC1 Duty) 220 V 20A 2P Contactor – 1 No. v) Electrolytic grade tinned copper bus: 50 x 6mm (Size) for each phase and Neutral. Mechanical Interlock between two Incomers. 2 Nos. full threaded GI Bolts (M 10 x 40mm) along with G.I. Nuts & washers are to be provided on two sides of the Feeder Pillar Box as Earth Stud.	1	No.	72,050.00	72,050.00
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122	Supply and delivery of Feeder Pillar Box for HMTs, which will be made from 3.15 mm thick CRCA sheet with GI angle Frame, double flap Hinged Door, both in front & rear sides with stiffeners, Handle complete with integral canopy and panel lock. The Feeder Pillar Box will be suitable for outdoor installation (having IP66 protection). After completion of total fabrication work of the Feeder Pillar Box, the assembly will be Hot Dip Galvanized (Min mean coating 610g/sq. m. or 85 µm). 2 Nos. Panel Keys are to be provided with each Feeder Pillar Box. Door sealing arrangement are to be made with Neoprene Rubber Gasket of thickness not less than 3mm. Cable(s) entry will be from bottom only for which detachable type Gland Plate (made from 3.15 mm thick GI Sheet) with punched holes suitable for 2 Nos. 3.5 cores x 185 sq. mm. XLPE insulated LT Al Cables, 1 No. 4 cores x 25 sq. mm, XLPE insulated LT Al Cable & 1 no. 3C 4 sq. mm. Al XLPE cable shall be provided. The Feeder Pillar Box will have Earth Bus made from G. I. Flat of size 50 x 6mm. Electrolytic grade tinned copper bus of size – 50 x 6mm for each phase and Neutral will have to be provided. Inner connections between Bus-Bars and the components are to be made by Electrolytic grade tinned copper flat/ 1.1KV grade insulated copper conductors of suitable size, along with tinned copper lugs. i) Incomers: 35KA, 415V AC, 125A, 4P MCCB of adjustable overload(80-100%) & adjustable short circuit (5-10 In) setting, Ics=100%Icu with phase barriers-2 Nos. ii) Outgoings: 35KA, 415V AC, 63A, 4P MCCB of fixed thermal & fixed magnetic setting-2 Nos. iii) 50 A (AC1 Duty) 415 V 32A 3P Contactor-1 No. iv) 25 A (AC1 Duty) 415 V 9A 3P Contactor-2Nos. iv) Astronomical Electronic Time Switch (with rechargeable battery backup) – 1 No. v) Bypass Switch – 1 No. vi) Push Button for raising and lowering the carriage of HMT-2 Nos. vii) Control 10 kA, 6A MCB- 2 Nos. viii) Indicating Lamps for R,Y,B Phases for both the incomers.	12	No.	71,330.00	855,960.00
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	ix) All other accessories complete in all respect The enclosure shall be suitable for IP – 66 Protection. 2 Nos. full threaded GI Bolts (M 10 x 40mm) along with G.I. Nuts & washers are to be provided on two sides of the Feeder Pillar Box as Earth Stud. Two Nos. Danger Boards are to be provided on the Front Door and Back Door of the Feeder Pillar Box.				
123	Construction of RCC foundation for the above Feeder Pillar Boxes including supply of foundation accessories consisting of cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials, labour etc. complete and refilling of earth upto the existing ground level after curing and as per technical specification.	13	No.	3,698.00	48,074.00
124	Installation of the above High Mast Feeder Pillar & Stand Alone Pillar box by grouting the stand in concrete.	13	No.	2,423.00	31,499.00
125	Supply of 150W / 160W integrated symmetrical LED Flood light Luminaries with secondary optics in pressure die cast housing and heat sink in aluminium extrusion with IP 66 etc., to be installed on 410 SP 49 GI pole cross-arm top, including suitable potted driver as mentioned in the technical spec.	28	No.	15,000.00	420,000.00
126	Installation of above fixtures on top of cross-arm of 410 SP 49 GI light pole complete in all respect with 3Cx 6 sq. mm. Al cable incld. S & F of the cable, finishing etc.	28	set	2,146.00	60,088.00

127	Supply & delivery at site 11meter high GI Street light Pole of type 410 SP 49 with GI cross-arm fitted, suitable for installing two integral type 160 watt luminaries. The Pole should be fitted with loop in loop out box in sheet steel lockable enclosure at suitable height and with base plate and cap. (Cost of the loop in loop out box not to be included here)	14	No.	17,550.00	245,700.00
128	Erection of Single Steel tubular pole of 11meter length with sole plate & Cap etc. in CC foundation (Proportion and dimension indicated below), having 600x600x150 mm thick CC (4:2:1) base block below sole plate / pole with hard jhama metal including CC (6:3:1) muffing 0.30 mts. dia and 0.30 mts. above ground level including 3 mm thick neat cemented finish and GI earth bolt after making drilled holes etc. on pole including filling up the excavated earth pit with shifted soil and ramming properly and S & F of 2x2.5 sq. mm. + 1x1.5 sq. mm. single core stranded PVC insulated Cu wire for connection from LILO(Loop-In-Loop-Out) box to luminaries incld. finishing etc. complete in all respect. All the poles shall be properly earthed with spike electrodes of 1.5 mtr length incld. S & F of GI Spike Electrode and S & F of 8 SWG GI Earth wire of suitable length.	14	No.	3,355.00	46,970.00
129	Supplying & Fixing waterproof type GI looping cable box size 300x200x100 mm deep having min 2.5 mm thickness, comprising of one 250 V 15 A kit-kat fuse unit, one compression type brass cable gland for upto 4- core 25 sq. mm. XLPE / Al cable and having lined with rubber gasketed top cover with brass machine screws etc., earthing terminal with lug, on steel tubular pole near base, including S&F 40x6 mm thick, GI clamps with bolts, nuts etc.	14	No.	1,913.00	26,782.00

130	Earthing with 50 mm dia ISI Medium GI pipe 3.64 mm thick x 3.00 Mts. long and 1 x 4 SWG GI (Hot Dip) wire (4 Mts. long), 13 mm dia x 80 mm long GI bolts, double nuts, double washers incl. S & F 15 mm dia GI pipe protection (1 Mts. long) to be filled with bitumen partly under the ground level and partly above ground level driven to an average depth of 3.65 Mts. below the ground level and also providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work(1:6) of 25 cm width duly plastered with cement mortar (inside) CI hinged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos. 12 mm dia holes on the GI pipe and treating of soil by using salt and charcoal as required. (2 nos. for each pillar box, 2 nos. for each high mast & 2 for electrical main panel)	52	Nos	2,815.00	146,380.00
131	Interconnection of the earth pit and connecting the equipments body to earth electrode station including Supply & Fixing of 25 mm X 6mm galvanized (Hot Dip) MS flat as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc	700	Meter	138.00	96,600.00
132	Supply & fixing of Double Door 2+4 way SPN MCB Distribution Board with IP42/43 protection, concealed within the wall at the meter room with 10kA, C-Characteristics, 6-32A DP MCB as incomer and 4 Nos of 10kA, C-Characteristics, of 10A SP MCB as outgoings incl. inner connection with copper wire & neutral link and provision for earthing arrangement.	1	No.	2,492.00	2,492.00
133	Distribution wiring from Lighting DB to Modular Switch boards & 15 amp plug point in 1.1KV 2x36/0.3 (2.5 sq.mm.) single core stranded 'FRLS' PVC insulated & unsheathed copper wire + 1x22/0.3(1.5 sq.mm.) single core stranded 'FRLS' PVC insulated & unsheathed copper wire for ECC in suitable size of PVC rigid conduit pipe embedded in wall by cutting wall for concealment incl. Supply & Laying of GI fish wire, necessary fittings as required.	15	meter	162.00	2,430.00

134	Distribution wiring in 1.1 KV grade 2x22/0.3 (1.5 sq. mm.) single core stranded 'FR' PVC insulated & unsheathed copper wire with 1x22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed copper wire for ECC, in suitable size of PVC rigid conduit pipe complete with all accessories embedded in wall to lights , fan points with Modular type switch fixed on Modular GI switch board with top cover plate flushed in wall incl. mending good damages to original finish.(Average run 6 mtr.)	3	point	893.00	2,679.00
135	Distribution Wiring in 1.1 KV grade 2x22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed copper wire with 1x22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed copper wire for ECC, to 240 V 6A, 5 pin plug point incl. S&F 240 V 6A, 5 pin Modular type plug socket & Modular type switch incl. S&F earth continuity wire, fixed on Module GI switch board with Module top cover plate flushed in wall incl. mending good damages to original finish (On Board)	1	point	249.00	249.00
136	Supply & Fixing 240 V, 5/15 A, 6 pin Modular type plug socket with 15A Modular type switch etc. complete set, without plug top on 4 module GI Modular type switch board embedded in wall with top cover plate incl. S&F switch board and cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.	1	Each	456.00	456.00
137	Supply, and delivery at site 1400mm. Energy saving Ceiling Fan.	1	No.	2,440.00	2,440.00
138	Installation of ceiling fan complete with blade, regulator, canopy etc. with appropriate length of MS down rod & making necessary connection by cu wire.	1	No.	350.00	350.00
139	Supply & Fixing 240V heavy duty, fan regulator 450 Watt on Modular GI switch board with top cover plate incl. making necy. connections etc.	1	No.	387.00	387.00

140	Supply of 2 x 20W range(double T/L set) LED light fitting	2	No.	1,000.00	2,000.00
141	Installation of above luminaries on wall at desired location with necessary connection by cu wire,nut, bolt complete in all respect.	2	No.	100.00	200.00
Sub Total 4 (Rs.)=					Rs.1,38,18,275.00
Grand Total (Rs.)=					4,09,20,143.00

(In Words: Four Crore Nine Lakh Twenty Thousand One Hundred and Forty Three Only)

Note:

1. The quantity above may increase or decrease as per requirement for which payment will be made as per actual.
2. The rate quoted should be exclusive of GST and should be considered to complete the work in all respect.
3. GST will be paid extra at applicable rates at the time of supply of goods and services.

PRICE IS EXCLUSIVE OF GST

Tenderer to fill up the following [score out which is not applicable]

PRICE NOT TO BE QUOTED HERE

(a).....%	}	Below par (-) Rs.
(in figures)		
.....Percent		
(in words)		
(b).....%	}	At par NIL
(in figures)		
.....Percent		
(in words)		
(c).....%	}	Above par (+) Rs.
(in figures)		
.....Percent		
(in words)		

Total Tendered Amount: Rs. _____

Total tendered amount (in words)

.....

[The prices quoted shall be including all statutory levies excluding GST, which shall be paid extra]

Permanent Income Tax A / C. No... ..

Date:

(Signature of Tenderer)

[Total amount of tender, completion time and preliminary time as quoted /stated above are to be carried over to Form of Tender attached]

Witness: -

(Name in block letters)

Address:

Occupation:

INFORMATION TO BE FURNISHED BY THE VENDOR.

[DOCUMENT TO BE SUBMITTED BEFORE CONDUCTING PRE-DISPATCH INSPECTION TEST OF THE LUMINARIES]

Documents related to LED Luminaries required to be submitted in Techno-commercial Bid:

Sl. No.	Description	Supporting Document Required	Complied (Yes/No)
1.	Model no. & make of LED Luminaries	Manufacturer Datasheet	
2.	Minimum Lumen Output	IES file & LM-79 from NABL accredited Lab.	
3.	Maximum wattage including driver	IES file & LM-79 from NABL accredited Govt. Lab.	
4.	LED Efficacy	LM-79 from NABL accredited Govt. Lab.	
5.	Luminaries System Efficacy	LM-79 from NABL accredited Govt. Lab.	
6.	LED Technology (SMD or COB) and approved make	LM-80/IS: 16105 Test Reports along with TM21 extrapolation from international accredited TPI of the L70B50 reported life	
7.	LED Life Span		
8.	Photo Biological Safety Norms	Report from Internationally / Nationally accredited Lab.	
9.	Colour Temperature	LED manufacture datasheet and soft copy of IES file & report from NABL accredited Lab	
10.	CRI	LED manufacture datasheet and soft copy of IES file accredited Lab	
11.	Min Efficiency of Driver	LED manufacture datasheet and type test report	
12.	In built high and low voltage cutoffs	LED manufacture datasheet and type test report	
13.	Driver Surge Protection Standard	LED manufacture datasheet and type test report	
14.	EMI/EMC Compliance	LED manufacture datasheet and type test report	
15.	LED Module PCB	LED manufacture datasheet and type test report	
16.	Driver PCB	LED manufacture datasheet and type test report	
17.	Housing	LED manufacture datasheet and type test report	
18.	Housing Ingress and impact protection	LED manufacture datasheet and type test report	
19.	Secondary Optics Type	LED manufacture datasheet and type test report	

Sl. No.	Description	Supporting Document Required	Complied (Yes/No)
20.	Thermal/ Temperature Rise Test	LED manufacture datasheet and type test report	
21.	BIS Registration	Separate BIS Registration Certificate for both Luminaries and driver System.	
22.	Resistance to heat fire tracking test certificate / report	LED manufacture type test report	
23.	Resistance to corrosion test certificate / report.	LED manufacture type test report	
24.	Lumen Maintenance test certificate / report.	LED manufacture type test report	
25.	Temperature Cycling (energized) test certificate / report	LED manufacture type test report	
26.	Accelerated Operation Life test certificate / report	LED manufacture type test report	
27.	Supply Voltage switching test.	LED manufacture type test report	
28.	ESD (Electrostatic Discharge) Test certificate / report	LED manufacture type test report	

Other Mandatory documents from LED Manufacturer for technical Qualification Criteria:

Sl. No.	Description	Supporting Document Required	Complied (Yes/No)
1.	ISO 9001:2015, ISO 14001:2015, BS OHSAS 18001:2007	Certification of LED Luminaire Manufacturer	
2.	In House NABL Accredited Photometry Laboratory	Valid Credential of accreditation with NABL	
3.	Service Network of LED Manufacturer in Kolkata.	Confirmation on official letter head giving details of company service network in Kolkata with undertaking of timely service within two working days.	
4.	Complete in house design, development, production and testing facility of LED Luminaire manufacture.	Confirmation on official letter head giving details of said facilities with undertaking for allowing verification of same by KoPT.	

Sl. No.	Description	Supporting Document Required	Complied (Yes/No)
5.	Manufacturers' replacement warranty for 60 months covering total luminary assembly including driver units	Warranty certificate for 60 months from the date of commissioning.	
6.	Detailed design, drawing, schematic for smart control of 400 watt LED Flood Light Luminaries along with tentative price indication for a complete set up of smart control.	Detailed system design, required drawing showing components in the smart controller/master controller, list of components needs to be incorporated further in future, schematic diagram etc. for complete smart control of High Mast Towers from manufacturer of LED Luminaries. Bill of Quantities indicating price for incorporating smart control for the said luminary system, complete in all respect, needs to be submitted from LED Manufacturer.	

Signature of Tenderer.....

Name:

Designation:

Date:

Official Seal of the tenderer.....

Profile of Tenderer / FORM –D

This is to confirm that we agree to abide by all the terms and conditions of this NIT No. KoPT/ KDS/ Mech/SE-I/ADV/537 dated 22.08.2019, those mentioned in the “General Conditions of Contract” enclosed with this Tender Document as well as decisions taken in the pre-bid techno-commercial conference, if any. Our relevant particulars are furnished hereunder:

Particulars	To be filled in by the Tenderer or to be mentioned as “none ”
Name of the Tenderer	
Name of the owner(s) of the Tenderer	
Full postal address of the Tenderer including Police Station	
Telephone No. of the Tenderer	
Fax No. of the Tenderer	
E-mail ID of the Tenderer	
Name of the contact person of the Tenderer	
Mobile/land line Telephone No. of the contact person of the Tenderer.	
Name of the partners/directors/ members, as applicable, in this particular contract	
Name of their authorized representative(s) who would handle the contract on their behalf.	

**[DOCUMENT TO BE DOWNLOADED, FILLED IN UNDER BIDDER'S LETTERHEAD,
SIGNED, SCANNED AND UPLOADED]**

Covering Letter

Ref. No.....

Date:

The Chief Mechanical Engineer,
Kolkata Port Trust,
Mechanical and Electrical Engineering Department,
8, Garden Reach Road,
Kolkata – 700 043

Dear Sir,

1. We,(Name of Tenderer) having examined the Tender Document and understood its contents, hereby submit our Tender for.....

.. (NIT No. KoPT/KDS/Mech/SE-I/ADV/..... Dated..... and confirm that we unconditionally accept all the terms and conditions of the same including the Addendum (if issued).

2. All information and proofs provided in the Tender including Addendum and in the Appendices are true and correct and all documents accompanying such tender are true copies of their respective originals.

3. We shall make available to Kolkata Port Trust (hereinafter referred to as KoPT) any additional information it may find necessary or require to supplement or authenticate the Tender.

4. We, (Name of Tenderer) hereby undertake that we will abide by the decisions of KoPT in the matter of examination, evaluation and selection of Successful Tenderer and shall refrain from challenging or questioning any decision taken by KoPT in this regard. We further acknowledge the right of KoPT to reject our tender without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.

5. We also certify the following:

(a) We have not been debarred by the Central/State Govt. or any entity controlled by them or any other legal authority from participating in any Tender/Contract/Agreement of whatever kind.

(b) We have also not been expelled from any project or contract nor have had any contract terminated for breach in the last 3 years ending on the date of opening of the techno commercial part of the tender.

6. We declare that:

(a) We have examined and have no reservations to the Tender Document, including the Addendum, if any, issued by KoPT thereon.

(b) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any corrupt, fraudulent or coercive practices to influence the evaluation process of the tender.

7. We understand that KoPT reserves the right to accept or reject any tender and to annul the tendering process and reject all tenders at any time without any liability or any obligation for such acceptance, rejection or annulment without assigning any reason thereof.

Yours faithfully,

Signature of Tenderer.....

Name:

Designation:

Date:

Seal of the tenderer.....

KOLKATA PORT TRUST

SCHEDULE – “O”

Tenderers must fill in the undernoted column:

Sl. No	Full particulars of similar works carried out by Tenderer	Value of work	Contract for completion time	Actual completion time	Name and Addresses of Authorities for whom work was carried out	Name and Addresses to whom reference can be made

SCHEDULE – “O”

Sheet – 2

The Tenderers are also requested to furnish the following particulars:

A. In case of a Limited Company:

1. Name of the Company :
2. Address of its present registered office :
3. Date of its incorporation :
4. Full name and address of each :
of its Directors – any special particulars
as to Directors if desired to be stated
5. Name, address and other necessary :
Particulars of Managing Agents, if any,
Appointed by the Company
6. Copies of Memorandum and Articles of :
Association (with the latest amendments,
if any)
7. Copies of audited Balance Sheets of the :
Company for the last three years.

SCHEDULE – “O”

Sheet – 3

B. In case of a Firm:

1. Name and address of the firm :
2. When business started :
3. If registered, a certified copy of Certificate of Registration :
4. A certified copy of the Deed Of Partnership :
5. Full name and address of each of the Partners and the interest of each partner in the Partnership. Any special particulars as to Partners if desired to be stated :
6. Whether the firm pays income tax over Rs.10, 000/- per year :

SCHEDULE – “O”

Sheet – 4

C. In case of an Individual:

1. Full name and address of the Tenderer; any special particulars of the Tenderer if desired to be stated :
2. Name of the father of the Tenderer :
3. Whether the Tenderer carried on business in his own name or any other name :
4. When business was started any by whom :
5. Whether any other person is interested in the business directly or indirectly, if so, name, address, etc. of such persons and the nature of such interest. :
6. Whether the Tenderer pays income tax over Rs.10,000/- per year :

DATED, the.....

Signature of Tenderer

**FORMAT OF AFFIDAVIT
On the Rupees Ten Non – Judicial Stamp Paper**

**BEFOR THE 1ST CLASS JUDICIAL MAGISTRATE AT-----
AFFIDAVIT**

I ----- son of ----- aged about -----Years, by faith -----, by occupation -----, residing at-----do hereby solemnly affirm and declare as follows:

1. That I am the proprietor/Partner of ----- having office at -----and carrying on business on the said name and style.

(In case the above Deponent is an enlisted Contractor at Kolkata Port Trust, the same should be mentioned in affidavit.)

2. THAT my aforesaid Firm is exempted from E.S.I. Act and the said Firm has no valid E.S.I Registration.

3. THAT the present affidavit is to be files before the Kolkata Port Trust as per the clause no ----- of Tender no-----issued by Kolkata Port Trust in respect of the work (the name of the work is to be mentioned)

That the statements made above are all true to be the best of my knowledge and belief.

That in the event the declaration is found to be wrong and false, I will be held responsible for all the consequences in respect of compliance of The Employees State Insurance Act, 1948

DEPONENT

Identified by me

(FORMAT OF INDEMNITY BOND)

On the Rupees Fifty Non – Judicial Stamp Paper

I N D E M N I T Y B O N D

By THIS BOND I, Shri/Smt-----, son of
Shri/Smt-----Residing at
----- by occupation -----the Partner/Proprietor/Director-----having
office at ----- am a tenderer under Mechanical Engineering Department, Kolkata Port Trust(A
statutory body under MPT Act, 1963)

2. WHEREAS , the said Kolkata Port Trust asked the every tenderer, who is not covered under E.S.I Act or exempted to furnish an Indemnity Bond in favour of Mechanical Engineering Department, Kolkata Port Trust against all damages and accident to the Labourer Tenderer/contractor.
3. NOW THIS BOND OF INDEMNITY WITHNESSTH THAT the Tenderer/contractor named herein above shall indemnify the Kolkata Port Trust AGAINST ALL DAMAGES AND ACCIDENT OCCURRING TO THE Labourers of the Tenderer/contractor as demanded by the Kolkata Port Trust and which shall be legal and /or claimed by the Kolkata Port Trust during the execution of the workstated in the NIT No----- of -----
4. AND the contractor hereunder agree to indemnity and at all times keep indemnified the Kolkata Port Trust and its administrator and representative.
5. And also all such possible claim or demand for damages and accidents. In the event the declaration is found to be wrong and false, the tenderer will be held responsible for all the consequences in respect of compliance of The Employees State Insurance Act, 1948.

In WITNESS WHEREOF I-----, the Partner/Proprietor/Director----- Hereto
setand seal this the----- Day of-----In the year-----
at-----.

Sureties

Signature of the Indemnifier

1. Signature:

Name:

Address:

2. Signature:

Name:

Address:

3 Witness

Signature

Name:

Address

**[DOCUMENT TO BE DOWNLOADED, FILLED IN UNDER BIDDER'S LETTERHEAD,
SIGNED, SCANNED AND UPLOADED]**

Undertaking to be submitted in lieu of uploading/submitting signed copy of full tender document

Ref. No.....

Date

The Chief Mechanical Engineer,
Kolkata Port Trust,
Mechanical and Electrical Engineering Department,
8, Garden Reach Road,
Kolkata – 700 043

Dear Sir,

We,(Name of Tenderer) have fully read and understood the entire Tender Document, GCC, and Addenda, if any, downloaded from the instant e-tender and no other source, and will comply to the said Tender document, GCC and Addenda.

We are submitting this undertaking in lieu of submission of signed copy of the full Tender document.

Yours faithfully,

Signature of Tenderer.....

Name:

Designation:

Date:

Seal of the tenderer.....

Checklist for Documents to be Uploaded

[Bidder to submit this document completely filled up for evaluation of its offer]

Name of the Firm:

Sl. No.	Documents to be uploaded as per instructions of NIT	Details of Documents as Uploaded
1	Earnest Money (details of DD no./Banker's Cheque No. with date or NSIC No. with validity period, if applicable, to be mentioned here)	
2	Tender Fee (details of DD no./Banker's Cheque No. with date or NSIC No. with validity period, if applicable, to be mentioned here)	
3	PAN No.	
4	Trade License Details	
5	Electrical Contractor License Details (No. & Validity period)	
6	ESI Regn. No. (If registered)	
7	Affidavit/ Indemnity Bond Uploaded (Yes/ No) (If ESI Registration is not applicable for the firm)	
8	PF Regn. No.	
9	GST Regn. certificate No.	
10	Professional Tax No.	
11	Undertaking (Annexure-J) Uploaded (Yes/ No)	
12	Form -D, Covering letter Uploaded (Yes/ No)	
13	Schedule 'O' Submitted (Yes/ No)	
14	Status of Tenderer (i.e. Pvt. Ltd./Partnership/Proprietorship etc.)	
15	"Financial Turnover (Average of Last 3 year turnover shall be 30% of the Tender value)"	FY: 2016-17
		FY: 2017-18
		FY: 2018-19

Note: No field is to be left blank.

Signature of Tenderer.....

Name:

Designation:

Date:

Seal of the tenderer.....

KOLKATA PORT TRUST



MECHANICAL & ELECTRICAL ENGINEERING DEPARTMENT

8, Garden Reach Road, Kolkata – 700 043.

GENERAL CONDITIONS OF CONTRACT

FORMS AND AGREEMENTS

**SANCTIONED BY TRUSTEES UNDER RESOLUTION NO. 92
OF
THE 6TH MEETING HELD ON 27TH MAY, 1993.**

(Copy of Booklet Published on May, 1993)

1. DEFINITIONS

- 1.0. In the contract, as here-in-after defined, the following words and expressions shall have the meaning here-in assigned to them, except where the context otherwise required.
- 1.1. "**Employer**" or "Board" or "Trustees" means the Board of Trustees for the Port of Kolkata, a body corporate under Section 3 of the Major Port Trust Act, 1963, including their successors, representatives and assigns.
- 1.2. "**Chairman**" means the Chairman of the Board and includes the person appointed to act in his place under Sections 14 and 14A of the Major Port Trusts Act, 1963.
- 1.3. "**Contractor**" means the person or persons; Firm or Company whose tender /offer has been accepted by the Trustees and includes the Contractor's representative's heirs, successor and assigns, if any permitted by the Board / Chairman.
- 1.4. "**Engineer**" means the Board's official who has invited the tender on its behalf and includes the Chief Engineer, the Chief Mechanical Engineer, the Senior Executive Engineer the Chief Hydraulic Engineer, the Deputy Chief Engineer, the Deputy Chief Mechanical Engineer, the Senior Resident Engineer, The Manager (Infrastructure & Civic Facilities), the Manager (Plant & Equipment) the Deputy Manager (Infrastructure & Civic Facilities) and the Deputy Manager (Plant & Equipment), or other official as may be appointed from time to time by the employer, with written notification to the Contractor, to act as Engineer for the purpose of the contract, in place of the "Engineer" so designated.
- 1.5. "**Engineer's Representative**" means any subordinate 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 Clauses 2.4 to 2.6 hereof.
- 1.6. "**Work**" means the Work to be executed in accordance with the Contract and includes authorized "Extra Works" and "Excess Works" and Temporary Works.
- 1.7. "**Temporary Works**" means all temporary works of every kind required in or about the execution, completion or maintenance of the works and includes (without thereby limiting the foregoing definitions) all temporary erections, scaffolding, ladders, timbering, soaking vats, site offices, cement and other god owns, platforms and bins for stacking building materials, gantries, temporary tracks and roads, temporary culverts and mixing platforms.
- 1.8. "**Extra Works**" means those works required by the Engineer for completion of the Contract which were not specifically and separately included in the schedule of items of works (i.e., Bills of Quantities) of the tender. "Excess Works" means the required quantities of work in excess of the provision made against any item of the Bill of Quantities.
- 1.9. "**Specifications**" means the relevant and appropriate Bureau of Indian Standard's Specifications (latest revisions) for materials and workmanship unless stated otherwise in the Tender.
- 1.10. "**Drawings**" means the drawings referred to in the Tender and specification and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- 1.11. "**Contract**" means and includes the General and Special Conditions of Contract, Specifications, Drawings, priced Bill of Quantities, the Tender/ Offer, the letter of acceptance of the Tender/Offer, the Contract Agreement if separately entered into and the Schedule of Rates and Price, if any, adopted by the Trustees at their discretion.
- 1.12. "**Constructional Plant**" means all appliances or things of whatsoever nature required in or about the execution, completion or maintenance of the works or temporary works and includes (without thereby limiting the foregoing definition) all machinery and tools but does not include materials or other things intended to form or forming part of the permanent work.
- 1.13. "**Site**" means the land and other places, on, under, in or through which the works are to be executed or carried out and any other lands or places provided by the Trustees for the purpose of the Contract.

- 1.14. "**Contract Price**" means the sum named in the letter of acceptance of the Tender/ Offer of the Contractor, subject to such additions thereto and deduction there from as may be made by the Engineer under the provisions here-in-after contained.
- 1.15. "**Month**" means English Calendar Month.
- 1.16. "**Excepted risks**" are riot in so far as it is uninsurable, war, invasion, act of foreign enemies, hostilities (whether war be declared or not) Civil War, rebellion, revolution, insurrection or military or usurped power or use or occupation by the Trustees of any portion of the works in respect of which a certificate of completion has been issued (all of which are herein collectively referred to as the excepted risks)
- 1.17. Word importing the **singular** only, also includes the **plural** and vice-versa where the context so required.
- 1.18. The **headings and marginal notes** in these General Conditions of Contract shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 1.19. Unless otherwise stipulated the word "Cost" shall be deemed to include overhead costs of the contractor, whether on or off the site.

2. DUTIES & POWERS OF ENGINEER & ENGINEER'S REPRESENTATIVE

- 2.0. 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.
- 2.1. The Contractor shall take instructions from the Engineer and subject to limitation of Clause 2.5 herein, from the Engineer's Representative
- 2.2. The Engineer shall have full power and authority
- (a) to supply to the contractor from time to time during the progress of the works such further drawings and instructions as shall be necessary for the purpose of proper and adequate execution and maintenance of the works and the contractor shall carry out and be bound by the same.
 - (b) to alter or modify the specification of any material and workmanship and to inspect the work at any time.
 - (c) to order for any variation, alternation and modification of the work and for extra works.
 - (d) to issue certificates as per contract
 - (e) to settle the claims & disputes of the Contractor and Trustees, as the first referee.
 - (f) to grant extension of completion time.
- 2.3. The Engineer's representative shall:
- (a) watch and supervise the works,
 - (b) test and examine any material to be used or workmanship employed in connection with the work.
 - (c) have power to disapprove and material and workmanship not in accordance with the contract and the contractor shall comply with his direction in this regard.
 - (d) take measurements of work done by the contractor for the purpose of payment or otherwise.
 - (e) order demolition of defectively done work for its reconstruction all by the Contactor at his own expense,
 - (f) have powers to issue alteration order not implying modification design and extension of completion time of the work and
 - (g) have such other powers and authorities vested in the Engineer, which have been delegated to him in writing by the Engineer under intimation to the Contractor.

2.4. 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 works and
- (c) to relieve the Contractor of any of his duties or obligations under the Contract.

2.5. Provided also as follows:

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

3. THE TENDER / OFFER AND ITS PRE-REQUISITES

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

- (a) The form and nature of the site and its surroundings including their sub-surface, hydrological, tidal and climate conditions, the means of access to the site and all other local conditions including the likely charges and costs for temporary way- leave, if any, required for the work.
- (b) The drawings, specifications, the nature and extent of work to be executed and the quality, quantity and availability of the required materials and labour for the work and the need to execute the work to the entire satisfaction of the Engineer, and also by complying with the General and Special Conditions of Contract.
- (c) The accommodation required for the workmen and site office, mobilization / demobilization and storage of all plant, equipment and Construction materials.
- (d) The sources and means of procurement of water for drinking, washing and execution of work, and source and availability of electrical power, all of Contractor's cost.
- (e) Payment of taxes and duties and compliance of all applicable statutes, ordinances and law together with the rules made there under, the rules, regulations and bye-laws of public bodies or any local or other authority by the Contractor, keeping the Trustees indemnified against penalties and liabilities of every kind arising from the Contractor's failure in such compliance.
- (f) Payment of all kinds of stamp-duty for exacting the agreement or for any legal instrument including Bank Guarantees and Indemnity Bonds.

3.2. The Contractor's tender shall be in ink on the Tender Forms supplied by the Trustees, unless stipulated otherwise in the Notice-Inviting the Tender and shall be faultless in figures and free from erasing.

Corrections, if any, shall only be made by scoring out and initialing of the revised figure.

3.3. If required by the Engineer or the Trustees, the Contractors in their tender or subsequently, shall disclose the names of their owners/partners/Share Holders at the required points of time. The failure in this regards shall be treated as a breach and a contract, if entered into, shall be liable to be cancelled.

3.4.(a) Unless otherwise stipulated in the Notice Inviting the Tender/Offer, every tender must be submitted with Earnest Money of the amount calculated as per the following scale.

Estimated Value	Amount of Earnest Money	
	For works contract.	For contract of supplying materials of equipment only
Up to Rs.1,00,000/-	5% of the estimated value of work	1% of the estimated value of work.
Over Rs. 1,00,000/-	2% of the estimated value of work subject to a maximum of Rs.20,000/- and minimum of Rs. 5,000/-	1/2% of the estimated value of work subject to a maximum of Ts. 10,000/- and minimum of Rs. 1,000/-

(b) Earnest Money shall be deposited with Trustees' treasurer in cash or by Banker's Cheque of any Kolkata Branch of a Nationalized Bank of India drawn in favour of Kolkata Port Trust or in the form of an "Kolkata Port Trust" and payable at Kolkata / Haldia Holding as the case may be and the receipt granted there for be kept attached to the Tender / offer in the Sealed Cover.

(c) Earnest Money of un-accepted tender shall be refunded without any interest through A/c. Payee Cheque drawn on a Nationalized Bank of Kolkata / Haldia.

(d) The enlisted (registered) Contractors of the Trustees, who have deposited fixed Security with the Trustees FA & CAO / Manager (Finance) according to his Class of Registration, shall be exempt from depositing the Earnest Money, as per the following scale:

Class of Registration	Amount of Fixed Security	Financial limit of each tender
A	Rs. 10,000/-	Any tender priced up to Rs. 2,00,000/-
B	Rs. 5,000/-	Any tender priced up to Rs.1,00,000/-
C	Rs. 2,500/-	Any tender priced up to Rs.50,000/-

(e) (i) Tender submitted without requisite Earnest Money may be liable to rejection.

(ii) If before expiry of the validity period of his Tender / offer, the tender amends his quoted rates or tender/ offer

making them unacceptable to the Trustees and / or withdraws his tender / offer, the Earnest Money deposited shall be liable to forfeiture of the option of the Trustees.

(f) The Earnest Money of accepted Tender / offer shall be retained by the Trustees as part of the Security Deposit, for which a separate Treasury Receipt shall be issued to the Contractor after cancellation of the previous Receipt of Earnest Money.

(g) Balance security for works contract shall be recovered by deduction from all progressive Bill (including final Bill, if necessary) @ 10% of the gross value of work in each such bill, so that the total recovery may not exceed the quantum computed as per the under noted percentages of the total value of work actually done up to the stage of completion.

Value of Work	% of Security Deposit for works contract	% of Security Deposit for Contract of supplying materials and equipments only
For works up to Rs. 10,00,000/-	10% (Ten percent)	1% (One percent)
For works costing more than Rs.10,00,000/- and up to Rs.20,00,000/-	10% on first Rs. 10,00,000/- + 7 1/2% on the balance	1% on first Rs.10,0,000/-+1/2% on the balance
For works costing more than Rs.20,00,000/-	10% on first Rs. 10,00,000/- + 7 1/2% on next Rs.10,00,000/-+ 5% on the balance	1% on first Rs.10,0,000/-+1/2% on next Rs.10,00,000/-+ 1/4% on the balance

(h) Balance Security for Contract of supplying materials and equipment computed in terms of the percentages given above, shall have to be deposited with the trustees' Treasurer in advance and within 30 days from the date of placement of supply order, either in cash or by A/c. Payee Draft of a Nationalized Bank of India drawn in favour of Kolkata Port Trust and payable at Kolkata / Haldia, as the case may be.

(i) No interest shall be paid by the trustees to the Tenderer / Contractor on the amount of Earnest Money / Security Deposit held by the Trustees, at any stage.

3.5. (i) The Security Deposit shall be refunded to the Contractor in terms of Clause 9.3 hereinafter and subject to deduction, if any, under the provision of Sub-Clause 3.5(ii) herein below. If, however, the contract provides for any maintenance period, 50% of the Security Deposit may be refunded against any of the Treasury Receipt for that amount on expiry of half of the maintenance period and the balance deposit on the said maintenance period and after the Engineer has certified the final completion of work in form G.C.2 and the Contractor has submitted his "No Claim" Certificate in form G.C.3.

(ii) The Security Deposit/Earnest Money may be liable to forfeiture at the option of the Trustees, if the Contractor fails to carry out the work or to perform/observe any of the conditions of the contract. The Trustees shall also be at liberty to deduct any of their dues from the Security Deposit, fixed Security, Earnest Money or from any sum due or to become due to the Contractor under any other contract.

3.6 If stipulated in the contract as a Special Condition, the Contractor shall have to submit to the Engineer performance Bond in the form of an irrevocable guarantee from Kolkata/Haldia Branch, as the case may be, of any Nationalized Bank of India in the proforma annexed hereto and for the sum and period as mentioned in the letter of acceptance of the Tender/Offer, within 15 days from the date of such letter, failing which the contract shall be liable to be terminated and the Earnest Money are liable to forfeiture; all at discretion of the Engineer. The cost of obtaining this or any other Bank Guarantee and/or the revalidation thereof, wherever required, has to be borne by the Contractor and it shall be his sole responsibility to arrange for timely revalidation of such bank guarantee, failing which and for non-fulfilment of any contractual obligation by the Contractor, the Engineer and/or the Trustees shall be at liberty to raise claim against the Guarantee and/or enforce the same unilaterally.

4. THE CONTRACT & GENERAL OBLIGATIONS OF CONTRACTOR

4.0.(a) The contract documents shall be drawn-up in English language.

(b) The contract shall be governed by all relevant Indian Acts as applicable only within the jurisdiction of the High Court at Kolkata, India, including the following Act:

- 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 Contract Labour (Regulation & Abolition) Act, 1970.
- vi. The Dock Workers' Act, 1948.
- vii. The Indian Arbitration Act (1940) (in the case of a definite arbitration Agreement only).

4.1. After acceptance of his Tender / Offer and when called upon to do so by the Engineer or his representative, the Contractor shall, at his own expense, enter into and execute a Contract Agreement to be prepared by him in the form annexed hereto. Until such Contract Agreement is executed the other documents referred to in the definition of the term "Contract" here-in-before shall collectively be the Contract.

4.2. Several documents forming the contract are to be taken as mutually explanatory of one another. Should there be any discrepancy, ambiguity, omission or error in the various contract documents, the Engineer shall have the power to correct the same and his decision shall be final and binding on the parties to the Contract.

4.3. Two copies of the Drawing referred to in the General and Special Conditions of Contract and in the Bill of Quantities, shall be furnished by the Engineer to the Contractors free of cost for his use on the work, but these shall remain the property of the Trustees and hence, the Contractor shall return them to the Engineer or his Representative on completion of the work. If not torn or mutilated on being regularly used at site.

4.4 The Contractor shall prove and make at his own expense any working or progress drawings required by him or necessary for the proper execution of the works and shall, when required, furnish copies of the same free of cost to the Engineer for his information and/ or approval, without meaning thereby the shifting of Contractor's responsibility on the engineer in any way whatsoever.

4.5. The Contractor shall not directly or indirectly transfer, assign or sublet the Contract or any part thereof without the written permission of the engineer. Even if such permission be granted, the Contractor shall remain responsible (a) for the acts, defaults and neglect of any sub-contractor, his agents servants or workmen as fully as if these were the acts, defaults or neglects of the Contractor himself or his agents, servants or workmen, and (b) for his full and entire responsibility of

the contract and for active superintendence of the works by him despite being sublet, provided always that the provision of labourers on a "piece rate" basis shall not be deemed to be subletting under this clause.

4.6. Unless otherwise specified, the Contractor shall be deemed to have included in his Tender / Offer all his cost for supplying and providing all constructional plant, temporary work, materials both for temporary and permanent works, labour including supervision thereof transporting to and from the site and in and about the work, including loading, unloading, fencing, watching, lighting, payment of fees, taxes and duties to the appropriate authorities and other things of every kind required for the construction, erection, completion and maintenance of the work.

4.7. 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.

4.8. Whenever required by the Engineer or his Representative, the Contractor shall submit to him the details of his (a) programme for execution of the work, (b) proposed procedure and methods of work, (c) proposed deployment of plant, equipment labour, materials and temporary works. The submission to and/ or any approval by the Engineer or his Representative to any such programme or particulars, shall not relieve the Contractor of any of his obligations under the contract. If for any reason the contractor be unable to adhere to his earlier programme, he shall submit his revised programme for completion of work within the stipulated time whenever asked to do so.

4.9. Necessary and adequate supervision shall be provided by the Contractor during execution of the works and as long thereafter as the Engineer or his Representative shall consider necessary during the maintenance period. The Contractor or his competent and authorised agent or representative shall be constantly at site and instructions given to him by the Engineer or his Representative in writing shall be binding upon the Contractor subject to limitation in clause 2.5 hereof. The Contractor shall inform the Engineer or his Representative in writing about such representative/agent of him at site.

4.10. The Contractor shall employ in execution of the Contract only qualified, careful and experienced persons and the Engineer shall be at liberty to direct the Contractor to stop deployment of any of his staff, workmen or official at site and the Contractor shall within 48 hours comply with such instruction without any demur, whenever the Engineer shall feel that the deployment of the person concerned will not be conducive to the proper and timely completion of the work.

4.11. 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.

4.12. From the commencement of the works till issue of the completion certificate in Form G.C.1, vide Clause 5.12 hereof, the contractor shall take full responsibility for the care thereof. Save for the excepted risks, any damage, loss or injury to the work or any part thereof shall be made good by the Contractor at his down 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 Maintenance period (Guarantee Period) as per the directions of the Engineer as also for defects/ damages if any caused to the work by the Contractor during such repairs and replacement in the maintenance period.

4.13. 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.

4.14. 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.

4.15. 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, trade-mark, 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) Unauthorized 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.

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

4.17. 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 Kolkata Municipal Corporation or other local authority or the Engineer or his Representative, for preventing (i) spread of any infectious disease like smallpox, cholera, plague or malaria by taking effective actions for destruction of rats, mice, vermin, mosquitoes etc. and by maintaining healthy and sanitary condition, (ii) illegal storage and distribution of Drugs, Narcotics, Alcoholic liquor, Arms and Ammunitions, (iii) unlawful, riotous or disorderly conduct of the Contractor's or his Sub-Contractor's workmen, (iv) deployment of workmen of age less than 16 years.

4.18. Every direction or notice to be given to the Contractor shall be deemed to have been duly served on or received by the Contractor, if the same is posted or sent by hand to the address given in the tender or to the Contractor's Site Office or 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 dispatch.

4.19. 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.

4.20. 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.

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

4.22. All constructional plants, temporary works and materials when brought to the site by the contractor, shall be deemed to be the property of the Trustees who will have a 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.

5. COMMENCEMENT, EXECUTION AND COMPLETION OF WORK

5.0. The contractor shall commence the work within 7 days of the receipt of Engineer's letter informing acceptance of the Contractor's tender / offer by the Trustees or within such preliminary time as mentioned by the contractor in the Form of Tender or the time accepted by the Trustees. The contractor shall then proceed with the work with due expedition and without delay, except as may be expressly sanctioned or ordered by the Engineer or his Representatives, time being deemed the essence of the contract on the part of the Contractor.

5.1. 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.

5.2. 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 actor 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.

5.3. 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 maybe required by the Engineer or his Representative. The engineer shall exercise his sole discretion to accept any such materials.

5.4. Unless stipulated otherwise, in the contract, all materials, workmanship 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 materials and workmanship shall be of the best of their respective kinds to the satisfaction of the Engineer.

5.5. 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.

5.6. Unless stipulated otherwise in the contract, the cost of any test required by the Engineer or his representative in respect of materials and workmanship deployed on the work shall be borne by the contractor.

5.7. Regarding the supply of any materials by the Trustees to the contractor in accordance with the contract, the following conditions shall apply:

(a) The contractor shall, at his own expense, arrange for transporting the materials from the Trustees' Stores, watching, storing and keeping them in his safe custody, furnishing of statement of consumption thereof in the manner required by the Engineer or his representative, return of surplus and empty container to the Trustees' Stores as per the direction of the Engineer or his Representative.

(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 / 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 / stipulated in the contract. These rates shall only be considered by the contractor in the preparation of his tender / offer and these will form the basis of escalation / variation, if in future the contractor is required to procure and provide any such material on the written order of the Engineer consequent on the Trustees’ failure to effect timely supply thereof.

(e) If the Engineer decides that due to the contractor’s negligence, and 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 19¼% 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.

5.8. The Engineer or his Representative shall have the power to inspect any material and work at any time and to order at any time – (i) for removal from the site of any material which in his opinion is not in accordance with the contract or the instruction of the Engineer or his Representative, (ii) for the substitution of the proper and suitable materials, or (iii) the removal and proper re-execution of any work, which in respect of material and workmanship is not in accordance with the contract or the instructions of the Engineer.

The contractor shall comply with such order at his own expense- and within the time specified in the order. If the contractor fails to comply, the Engineer shall be at liberty to dispose of such materials and re-do any work in the manner convenient to the Trustees by engaging any outside agency at the risk and expense of the contractor and after giving him a written prior notice of 7 days.

5.9. 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. The Trustees shall reimburse such cost as determined by the Engineer, if the initial covering up was with prior written order of the Engineer or his Representative.

5.10. 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:

- i. Otherwise provide for in the contract, or
- ii. Necessary by reason of some default on the part of the Contractor, or
- iii. Necessary by reason of climatic conditions on the site, or
- iv. Necessary for proper execution of the works or for the safety of the works or any part thereof.

The Engineer shall settle and determine such extra payment and / or Extension of completion time to be allowed to the contractor, as shall, in the opinion of the Engineer, be fair and reasonable.

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 instruction.

5.11. When the whole of the work has been completed to the satisfaction of the Engineer and has passed any final test prescribed in the contract, the contractor shall, within 21 days of submission of his application to the Engineer be entitled to receive from him a certificate for completion of work in Form G.C.1 annexed hereto. If any part of the total work having been completed to the satisfaction of the Engineer, be takeover and / or used by the Trustees the Contractor shall on application be entitled to partial completion certificate in the Form of G.C.1 indicating the portion of the work covered by it, so that the Contractor's liability during maintenance period of the contract, if any, shall commence from the date mentioned in such certificate so far as the completed portion of the work is concerned.

6. TERMS OF PAYMENT:

6.0. No Sum shall be considered as earned by or due to the Contractor in respect of the work till final and satisfactory completion thereof and until a certificate of final completion in Form G.C.2 has been given by the Engineer. On account payments, if any, made prior to issue of the certificate in Form G.C.2, shall all be treated as mere advances, which shall stand recoverable in full or in part, if the Engineer so decides in the context of Contractor's unfulfilled contract condition, if any.

6.1. All payments shall be made to the Contractor on the basis of measurement of actual work done, as recorded in the Trustees' measurement books and at accepted tendered or at agreed rates, as the case may be except as otherwise provided in the contract and when the Engineer decided any other rate for change in the scope of work or omission, if any, on the part of the Contractor.

6.2. For work of sanctioned tender value more than Rs. 50,000/- or having an initially stipulated completion period of 4 months or more, on account payments may be made at the discretion of the Engineer or his Representative at intervals deemed suitable and justified by him. Provided always that, subject to execution of work of substantial value in the context of the contract price, the interval of such on account payments shall be decided by the Engineer or his Representative, which shall ordinarily not be less than 1 month in between two payments for on account bill and / or advance.

6.3. Measurement for works done shall be progressively taken by the Engineer's Representative and entered in the Trustees' Measurement Book, at intervals deemed suitable and proper by him and / or the Engineer. The Contractor or his duly accredited Representative or Agent shall remain present at the time of such measurement and assist the Engineer's

Representative in every manner required by him. After the measurements taken have been entered in the Measurement Book, the Contractor or his Agent shall sign the Measurement Book at the end of such Measurements over the Contractor's Rubber Stamp as a taken of acceptance of all such measurements, recorded above and prior to such signature. If the Contractor or his Agent fails to participate even other 3 days written notice from the Engineer's Representative the measurement shall be taken ex-part by the Engineer's representative and those shall be accepted by the Contractor.

6.4. Based on the quantum of work and the value thereof computed in the Measurement Book, the Contractor shall type out his bill in the proforma approved by the Engineer and submit the same to the Engineer's Representative in quadruplicate, duly signed by him or his accredited Agent over his Rubber Stamp. The Engineer or his Representative may, in his absolute discretion, allow advance payment against such bill to the extent of an amount not exceeding 75% of the "net payable" sum of the said bill, subject to adjustment there of against the bill at the time of checking and auditing the bill at the Trustees end., The measurement Book will not be handed over to the Contractor; but he will obtain the abstracts of quantities, amount and recoveries to type out the bill.

6.5. At the discretion of the Engineer or his Representative and only in respect of accepted offers/ where estimated amount put to tender would be Rs. 2,00,000/- or more, advance payment may be made to the extent of 75% of the value of any material purchased and brought to the site by the Contractor. Provided always that

- i. The materials shall, in the opinion of the Engineer or his Representative, be of imperishable nature.
- ii. The value of such materials shall be assessed by the Engineer or his Representative, at their own discretions,
- iii. A formal agreement has been drawn up with the contractor, under which the Trustees secure a lien on the contractor's materials.
- iv. The materials are safe-guarded by the contractor against losses, shortage and misuse due to the contractor postponing the execution of the work or otherwise,
- v. In the event of shortage of such materials within the Trustees' protected areas in the Docks, the contractor shall submit an indemnity Bond in the proforma and manner acceptable to Trustee' whereby the contractor shall indemnify the Trustees' against all financial loss/ damage, on account of loss/ damage to such materials for whatever reasons.
- vi. In the event of storage of such materials outside the Trustees' protected areas the Contractor shall submit to the Engineer an irrevocable Bank Guarantee favouring the Trustees and for the same sum as is being advance, in the proforma and manner acceptable to the Trustees. The Guarantee shall be of a Kolkata / Haldia Branch of any Nationalized Bank or a Scheduled Commercial bank, as the case may be, acceptable to the Trustees and shall remain valid till the anticipated period of consumption of such materials in the work. The Bank Guarantee must bear an undertaking by the issuing Bank guaranteeing automatic payment of the guaranteed sum to the Trustees by the Bank on the date of expiry of the validity of the Guarantee, unless with the prior written approval of the Engineer on behalf of the Trustees, the Bank has extended the validity of the Guarantee.
- vii. The amount of advance shall be recoverable from the contractor's bills or any other dues, progressively with the consumption of the materials on the basis of quantity consumed. Consequent on full recovery of the advance the Indemnity Bond / Bank Guarantee, vide sub-clause (v) & (vi) above, shall be returned to the Contractor duly discharged by the Engineer on behalf of the Trustees.

6.6. No Certificate of the Engineer or his Representative shall protect the Contractor against or prevent the Trustees from obtaining repayment from the Contractor, in case the Engineer or his Representative should over certify for payment or

the Trustees should over-pay the Contractor on any account.

6.7. No claim for interest shall be admissible to the Contractor at any stage and in respect of any money or balance or Bank Guarantee, which may be due to the Contractor from the Trustees, owing to dispute or otherwise or for any delay on the part of the Trustees in making interim or final payment or otherwise.

7. VARIATION AND ITS VALUATION:

7.0. The Quantities set out in the Bill of Quantities of the tender shall be treated as estimated quantities of the work and shall never be deemed as actual or correct quantities of the works to be executed by the contractor in fulfilment of his obligation under the contract.

7.1. The Engineer shall have the power to order the Contractor in writing to make any variation of the Quantity, quantity 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.

7.2. 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.

7.3. 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 bill of quantities. Provided also that verbal order of variation from the Engineer shall be complied with by the Contractor and the Engineer's subsequent written confirmation of such verbal order shall be deemed to be an order in writing within the meaning of this clause.

7.4. **a)** The Contractor shall not be entitled to any claim of extra or additional work unless they have been carried out under the written orders of the Engineer.

b) The Engineer shall solely determine the amount (if any) to be added to or deducted from the sum named in the tender in respect of any extra work done or work omitted by his order.

c) All extra, additional or substituted work done or work omitted by order of the Engineer shall be valued on the basis of the rates and prices set out in the contract, if in the opinion of the Engineer, the same shall be applicable. If the contract does not contain any rates or prices directly applicable to the extra additional or substituted work, then the Engineer may decide the suitable rates on the basis of Schedule of Rates (including surcharge in force at the time of acceptance of tender), if any, adopted by the Trustees with due regard to the accepted contractual percentage, if any thereon. In all other cases the Engineer shall solely determine suitable rates in the manner deemed by him as fair and reasonable, and his decision shall be final, binding and conclusive.

d) If the nature or amount of any omission or addition relative to the nature or amount of the whole of the contract work or to any part thereof shall be such that, in the opinion of the Engineer, the rate of prices contained in the contract for any item of the works or the rate as evaluated under sub-clauses (b) and (c) of this clause, is by reason of such omission or addition rendered unreasonable or in-applicable the Engineer shall fix such other rate or price as he deems proper and the Engineer's decision shall be final, binding and conclusive.

8. DELAY / EXTENSION OF COMPLETION TIME / LIQUIDATED DAMAGE / TERMINATION OF CONTRACT.

8.0. Should the quantum of extra or additional work of any kind or delayed availability of the Trustees' materials to be supplied as per contract or exceptionally adverse climatic conditions and natural phenomenon or strikes, lockouts, civil commotions or other special circumstances of any kind beyond the control of the Contractor cause delay in completing the work, the contractor shall apply to the Engineer in writing for suitable extension of completion time within 7 days from the date of occurrence of the reason and the Engineer shall there upon 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 Damaged" Clause (No.8.3 hereof) on the Contractor and his decision shall be binding on the contractor. If an extension of completion time is granted by the Engineer, the clause No.8.3 of the Liquidated damage shall apply from its date of expiry, if the work be not completed within the extended time, unless stated otherwise in the decision communication by the Engineer, as aforesaid.

8.1. a) If the Contractor fails to complete the work within the stipulated dates or such extension thereof as communicated by the Engineer in writing, the contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, ½ % (half percent) of the total value of work (contract price) as mentioned in the latter of acceptance of the tender/offer, for every week or part thereof the work remains unfinished. Provided always that the amount of such compensation shall not exceed 10% the said value of work.

b) Without prejudice to any of their legal rights, the Trustees shall have the power to recover the said amount of compensation / damage in Sub-Clause (a) of this clause, from any money due or likely to become due to the contractor. The payment or deduction of such compensation / damage shall not relieve the Contractor from his obligation to complete the work or from any of his other obligations / liabilities under the contract and in case of the Contractor's failure and at the absolute discretion of the Engineer, the work may be ordered to be completed by some other agency at the risk and expense of the Contractor, after a minimum three days' notice in writing has been given to the contractor by the Engineer or his Representative.

8.2. Without being liable for any compensation to the Contractor, the Trustees may, in their absolute discretion, terminate the contract due to occurrence of any of the following reasons and decision of the Trustees in this respect, as communicated by the Engineer shall be final and conclusive :

(i) The Contractor has abandoned the contract.

(ii) In the opinion of the Engineer, either the performance of the Contractor is not satisfactory or the work is not getting completed within the agreed period on account of Contractor's lapses.

(iii) The Contractor has failed to commence the work or has without any lawful excuse under these conditions, has kept the work suspended despite receiving the Engineer's or his Representative's written notice to proceed with

the work.

(iv) The Contractor has failed to remove materials from site after receiving from the Engineer or his Representative the written notice stating that the said materials or work are rejected by him .

(v) The Contractor is not executing the work in accordance with the contract or is persistently or flagrantly neglecting to carry out his obligations under the contract.

(vi) Any bribe, commission, gift or advantage is given, promised or offered by or on behalf of the contractor to any officer, servant or representative of the Trustees or to any person on his or their behalf in relation to the obtaining or to the execution of the contract.

(vii) The Contractor is adjudged insolvent or enters in to composition with his creditors or being a company goes in to liquidation either compulsorily or voluntarily.

8.3.1 Upon receipt of the letter of termination of work, which may be issued by the Engineer on behalf of the Trustees, the Contractor shall hand over all the Trustees' tools, plant and materials issued to him at the place to be ascertained from the Engineer, within 7 days of receipt of such letter.

8.3.2 In all such cases of Termination of work, the Trustees shall have the power to complete the Work through any other agency of the Contractor's risk and expense and the Contractor shall be debited any sum or sums that maybe expended in completing the work beyond the amount that would have been due to the contractor, had he duly completed the whole of the work in accordance with the contract.

8.3.3 Upon termination of contract, the contractor shall be entitled to receive payment of only 90 % of the value of the work actually done or materials actually supplied by him and subject to recoveries as per contracts, provided the work done and materials conform to specifications at the time of taking over by the Trustees. The payment for work shall be based on measurements of actual work done and priced at approved contract rates or other rates, as decided by the Engineer. The payment for materials supplied shall be at the rates as decided by the Engineer, which shall in no case be more than market rates prevailing at the time of talking over by the Trustees. The Engineer's decision in all such case shall be final, binding and conclusive.

8.3.4 The Trustees shall have the power to retain all moneys due to the Contractor until the work is completed by other agency and the Contractor's Liabilities to the Trustees and known in all respect.

9. MAINTENANCE AND REFUND OF SECURITY DEPOSIT:

9.0. On completion of execution of the work the contractor shall maintain the same for a period, as may be specified in the form of a Special Condition of the Contract, from the date mentioned in the initial Completion Certificate in the Form G.C.1. Any defect / fault, which may appear in the work during aforesaid maintenance period, arising, in the sole opinion of the Engineer or his Representative, from materials or workmanship not in accordance with the contract or the instruction of the Engineer or his Representative, shall, upon the written notice of the Engineer or his Representative, be amended and made good by the Contractor at his own cost within seven days of the date of such notice, to the satisfaction of the Engineer or his Representative, failing which the Engineer or his Representative shall have the defects amended and made good through other agency at the Contractor's risk and cost and all expenses, consequent thereon or incidental thereto, shall be recoverable from the Contractor in manner deemed suitable by the Engineer.

9.1. The Contract shall not be considered completed and the work shall not be treated as finally accepted by the Trustees, until a final Completion Certificate in form G.C. 2 annexed hereto shall have been signed and issued by the Engineer to the contractor after all obligations under the Contract including that in the maintenance period, if any, have been fulfilled

by the Contractor. Previous entry on the works or taking possession, working or using thereof by the trustees shall not relieve the Contractor of his obligations under the contract for full and final completion of the work.

9.2. On completion of the contract in the manner aforesaid, the Contractor may apply for the refund of his Security Deposit by submitting to the Engineer (i) The Treasury Receipts granted for the amount of Security held by the Trustees, and (ii) his "No further claim" Certificate in from G.C.3 annexed hereto (in original), where upon the Engineer shall issue Certificate in from G.C.2 and within two months of the Engineer's recommendation, the Trustees shall refund the balance due against the Security Deposit to the Contractor, after making deduction there from in respect of any sum due to the Trustees from the Contractor.

10. INTERPRETATION OF CONTRACT DOCUMENTS, DISPUTES & ARBITRATION

10.0. In all disputes, matters, claims, demands or questions arising out of or connected with the interpretation of the Contract including the meaning of Specifications and Instructions or as to the quality of workmanship or as to the materials used in the work or the execution of the work whether during the progress of the work or after the completion and whether before or after the determination, abandonment or breach of the contract the decision of the Engineer shall be final and binding on all parties to the contract and shall forthwith be given effect to by the Contractor.

10.1. If, the Contractor be dissatisfied with any such decision of the Engineer, he shall within 15 days after receiving notice of such decision require that the matter shall be referred to Chairman, who shall thereupon consider and give a decision.

10.2. If, however, the contractor be still dissatisfied with the decision of the Chairman, he shall, within 15 days after receiving notice of such decision required that within 60 days from his written notice, the Chairman shall refer the matter to an Arbitrator of the panel of Arbitrators to be maintained by the Trustees for the purpose and any such reference shall be deemed to be a submission to arbitration within the meaning of Indian Arbitration Act, 1940 or any statutory modification thereof.

10.3.1 If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another person from panel shall be appointed as Sole Arbitrator and he shall proceed from the stage at which it was left by his predecessor.

10.3.2 The Arbitrator shall be deemed to have entered on reference on the date he issues notice to both the parties fixing the date of first hearing.

10.3.3 The time limit within which the Arbitrator shall submit his award shall normally be 4 months as provided in Indian Arbitration Act, 1940 or any amendment thereof. The Arbitrator may, if found necessary, enlarge the time for making and publishing the award, with the consent of the parties.

10.3.4 The Venue of the arbitration shall be Kolkata or as may be fixed by the Arbitrator in his sole discretion. Upon every or any such reference to cost of any incidental to the reference and award respectively shall be in discretion of the Arbitrator who may determine, the amount thereof or by whom and to whom and in what manner the same shall be borne and paid.

10.3.5 The Award of the Arbitrator shall be final and binding on all parties subject to the provisions of the Indian

Arbitration Act, 1940 or any amendment thereof. The Arbitrator shall give a separate award in respect of each item of disputes and respective claim referred to him by each party and give reason for the award.

10.3.6 The Arbitrator shall consider the claims of all the parties to the contract within only the parameters of scope and conditions of the contract in question.

10.3.7 Save as otherwise provided in the contract the provisions of the Arbitration Act, 1940 and rules made there under, for the time being in force, shall apply to the arbitration proceedings under this Clause.

10.3.8. The Contractor shall not suspend or delay the work and proceed with the work with due diligence in accordance with Engineer's decisions. The Engineer also shall not withhold any payment, which, according to him, is due or payable to the Contractor, on the ground that certain disputes have cropped up and are likely to be referred to arbitration.

10.4. Provided always as follows:

- (a) Nothing of the provisions in paragraphs 8.3 to 8.3.7 hereinabove would apply in the case of contracts, where tendered amount appearing in the letter of acceptance of the tender / offer is less than Rs.40,00,000/-.
- (b) The Contractor shall have to raise disputes or differences of any kind whatsoever in relation to the execution of the work to the Engineer within 30 days from the date of occurrence of the cause of dispute and before the preparation of the final bill, giving detailed justifications, in the context of contract conditions.
- (c) Contractor's dispute, if any, arising only during the maintenance period stipulated in the contract, must be submitted to the Engineer, with detailed justifications in the context of contract Conditions, before the final completion of the work. No dispute or difference on any matter whatsoever, pertaining to the contract can be raised by the contractor after the completion of the work.
- (d) Contractor's claim / dispute raised beyond the time limits prescribed in sub-clauses 8.5(b) and 8.5(c) hereinabove, shall not be entertained by the Engineer and / or by any Arbitrator, subsequently.
- (e) The Chairman / Trustees shall have the right to alter the panel of Arbitrators on their sole discretion, by adding the names of new Arbitrators and / or by deleting the names of existing Arbitrators, without any reference to the Contractor.

THE BOARD OF TRUSTEES FOR THE PORT OF KOLKATA

FORM OF TENDER

CONTRACT NO.....

To,

.....
.....
.....

I/We.....
...of.....ha
ving examined the site of works, inspected the Drawings and read the Specifications, General and Special Conditions of Contract and Conditions of Tender, hereby tender and undertake to execute and complete all the works required to be performed in accordance with the Specification, Bill of Quantities, General & Special Conditions of Contract and Drawings prepared by or on behalf of the Trustees and at the rates and prices set out in the annexed Bill of Quantities with.....month/week from the date of the order to commence the work and in the event of our Tender being accepted in full or in part, I/We also undertake to enter into a Contract Agreement in the Form hereto annexed with such alterations or additions thereto which may be necessary to give effect the acceptance of the Tender and incorporating such Specification, Bill of Quantities, Drawings and Special & General Conditions of Contract and I/We hereby agree that until such Contract Agreement is executed the said Specifications, Bill of Quantities, Conditions of Contract and the Tender, together with the acceptance thereof in writing by or on behalf of the Trustees shall be the Contract.

THE TOTAL AMOUNT OF TENDER Rs.

(Repeat in
words).....
...

.....
*I/We require days/months preliminary time to arrange and procure the materials required by the work from date of acceptance of the Tender before I/We could commence the Work.

(* This should be scored out in the case of labour contracts)

I/We have deposited with the Trustees' Financial Advisor & Chief Accounts Officer / Manager (Finance), Haldia Dock Complex vide Receipt No of as Earnest Money.

I/We agree that period for which the Tender shall remain open for acceptance shall not be less than four months.
Signature of the Tenderer

Witness:

(Seal of the Tenderer)

Signature

Name of the Tenderer

Name

(In Block Letters)

(In Block Letters)

Address

Dated

.....

Address

Occupation

.....

THE BOARD OF TRUSTEES FOR THE PORT OF KOLKATA

FORM OF AGREEMENT

THIS AGREEMENT made thisday of.....200.....between the Board of Trustees for the Port of Kolkata, a body corporate constituted by the Major Port Trusts Act, 1963 (hereinafter called “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.

WHEREAS the Trustees are desirous that certain works should be executed / constructed, viz.....and have accepted a Tender / Offer by the Contractor for the execution and maintenance of such work NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in General 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, viz.
 - (a) The said Tender / Offer & the acceptance of the Tender / Offer
 - (b) The General Conditions of Contract
 - (c) The Special Conditions of Contract
 - (d) The Conditions of Tender
 - (e) The Technical Specifications
 - (f) The Schedule of Rates
 - (g) The Terms of Payment
 - (h) 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 covenants with the Trustees to execute and maintain the work in conformity in all respects with the provisions of the contract.
4. The Trustees hereby covenants to pay to the Contractor, in consideration of such execution and maintenance of the Work, the Contract Prices at the times and in the manner prescribed by the Contract.

IN WITNESS whereof of the parties hereto have caused their respective Common Seals to be hereunto affixed (or have hereunto set their respective hands and seals) the day and year first above written.

The Seal of.....
.....

Was hereunto affixed in the presence of:

Name

Address

.....

Or

SIGNED, SEALED AND DELIVERED

by the said

In the presence of:

Name

Address:

.....

The Common Seal of the Trustees was hereunto affixed in the presence of:

Name.....

Address:

KOLKATA PORT TRUST

FORM G.C.1

Contract
Address
.....

Date of Completion

Dear Sir/s,

This is to certify that the following works viz.

Name of the Work.....
Estimate Number E.E.Odt
C.E.Odt
Work Order Number
Allocation
Contract Number

Which was carried out by you is in the opinion of the undersigned completing in every respect on the Day of20..... in accordance with clause 62 of the General Conditions of Contract and under the provisions of the Contract for a period of..... Days /weeks / months / years.

From the day of 20
of the day of 20

Signature (.....)
(Engineer / Engineer's Representative)

Name.....
Designation.....

Office Seal

c.c. to The Deputy Chief Engineer ()
The Deputy Manager ()
Financial Adviser & Chief Accounts Officer/
Manager (Finance), Haldia Dock Complex.

KOLKATA PORT TRUST

FORM G.C.2

The Financial Adviser & Chief Accounts Officer.

The Manager (finance), Haldia Dock Complex.

CERTIFICATE OF FINAL COMPLETION

This is to certify that the following works viz.

Name of Work
Estimate No. E.E.O. No. dt
C.E.O. Nodt
Work Order Nodt
Contract No
Resoln. No & Meeting No
Allocation

Which was carried out by Shri / Messrs.'is now complete in every respect in accordance with the terms of the Contract and that all the obligations under Contract have been fulfilled by the Contractor.

Signature (.....)
(Engineer / Engineer's Representative)

Name.....
Designation.....

Office Seal

KOLKATA PORT TRUST

FORM G.C.3

(‘No Claim’ Certificate From Contractor)

The Engineer
Kolkata Port Trust
Kolkata / Haldia

(Attn)

(Address, the Trustees’ Official, mentioned in
the work Order and under whom the Contract
was executed)

Dear Sir,

I/We do hereby declare that I/We have received full and final payment from Kolkata Port Trust for the execution of the following work, viz.

Name of Work

Work Order No dt

Contract Nodt.....

Agreement Nodt.....and I/We have
no further claim against 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)

Draft Proforma of Bank Guarantee (Performance Bond) in lieu of cash Security Deposit, to be issued by the Kolkata/Haldia, as the case may be, of any nationalized Bank of India on Non-Judicial Stamp Paper worth Rs.50/- or as decided by the Engineer / Legal Adviser of the Trustees.

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 Kolkata, a body corporate - duly constituted under the Major port Trust Act, 1963 (Act 38 of 1963), having agreed to exempt Shri / Messrs a proprietary / Partnership / Limited / Registered Company, having its Registered Office at

(hereinafter referred to as "The Contractor") from cash payment of Security Deposit / Payment of Security Deposit through deduction from the Contractors' bills under the terms and conditions of a contract made between the Trustees and the Contractor for (write the name of the work as per

Work Order) in terms of the Work order No dated.....(hereinafter referred to as "the said contract"), for the due fulfillment by the contractor

of all the terms and conditions contained in the said contract, on submission of a bank Guarantee for Rs

(Rupees)

we,.....Branch, Kolkata...../ Haldia, do on the advise

of the contractor, hereby undertake to indemnify and keep indemnified the Trustees to the extent of the said sum of Rs

(Rupees)

We.....Branch,Kolkata/Haldia, further agree that if a

written demand is made by the Trustees through any of its officials for honoring 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 Guaranteed in the manner aforesaid shall constitute sufficient reason 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 any time 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 Guaranteed 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 is 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 up to and inclusive ofday of19.....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 up to 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 forbear or enforce any of terms and conditions relating to the said contract and We, Branch, Kolkata/Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the contractor or for any fore-bearance, act or commission on the part of the 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, 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)

ADDENDUM

Modification of clause no.3.4 of GCC as sanctioned vide Reso. No.210 by the Board of Trustees for the Port of Kolkata in the 13th Meeting held on 26.02.2013.

i. Earnest Money: Earnest money deposit @ 2% of the estimated cost will be applicable for works / service / O&M contract only and not for procurement contract for which existing system as mentioned in the GCC should be followed.

ii. There will be no minimum ceiling of Earnest Money which will be @ 2% of estimated cost of projects up to Rs.10 crore. EMD of project estimated above Rs.10 crore will be Rs.20 lakh + 1% of estimated cost by which it exceeds Rs.10 crore.

iii. Upto Rs.10 lakh Earnest Money will be accepted by Banker's cheque / Demand Draft / Pay order. EMD beyond Rs.10 lakh may be accepted in the form of Bank Guarantee issued by an Indian Nationalized / Scheduled Bank.

iv. Refund of Earnest money to other than L-1 bidders will be made within 2 month of opening of bid or on finalization / acceptance of tender, whichever is earlier.
