



SYAMAPRASAD MOOKERJEE PORT,KOLKATA

(Erstwhile Kolkata Port Trust)

KOLKATA DOCK SYSTEM

MECHANICAL & ELECTRICAL ENGINEERING DEPARTMENT

8, Garden Reach Road, Kolkata – 700 043

TENDER DOCUMENT

for

Work: “Electrical Installation work related to development of Refeer Park behind Lybian Tea Ware House .”

Notice Inviting Tender No.: SMP/KDS/Mech/SE-II/ADV/561 dated 08.09.2020

- Site inspection followed by pre bid meeting : 18.09.2020 at 12.00 hrs.
- Start date of submission of e-tender : 24.09.2020 from 12.00 hrs.
- Closing date for e- Tender : 06.10.2020 up to 14.30 hrs.
- Date of opening of Techno commercial bid : 07.10.2020 at 14.30 hrs.

Tender Fee: Rs. 1770/- (including GST) (Non-Refundable)

Chief Mechanical Engineer

TENDER DOCUMENT

SYAMAPRASAD MOOKERJEE PORT, KOLKATA KOLKATA DOCK SYSTEM

e-TENDER FOR “Electrical Installation work related to development of Refeer Park behind Lybian Tea Ware House”

NOTICE INVITING TENDER No.: SMP/KDS/Mech/SE-II/ADV/000 dated 08.09.2020

TENDER NOTICE

Mechanical & Electrical Engineering Department Syamaprasad Mookerjee Port , Kolkata from herein will be referred as (SMP) invites E-Tender under single stage two part system (Part I: Techno-Commercial Bid and Part II: Price Bid) for “**Electrical Installation work related to development of Refeer Park behind Lybian Tea Ware House**”.

Bid Document may be downloaded from CPP Portal and SMP 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.	SMP/KDS/Mech/SE-II/ADV/561 dated 08.09.2020
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 1,97,94,959/- (Rupees One Crore Ninety Seven Lakhs Ninety Four Thousand Nine Hundred and Fifty Nine Only).
i) Earnest Money Deposit	The intending bidders should submit Earnest Money of Rs. 3,95,900/- (Rupees Three Lakh Ninety Five Thousand Nine Hundred Only). to Kolkata Port Trust 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 1770/- (One thousand Seven Hundred & Seventy) 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, SMP, 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, SMP, 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	16.09.2020 at 14-00 hrs.
Date and time of site inspection & Pre-Bid meeting	18.09.2020 at 12-00 hrs.
Date of starting of online submission of bid (Techno-Commercial Bid and price Bid) through CPP Portal	24.9.2020 from 12-00 hrs.
Date of closing of online submission of Bid.	06.10.2020 at 14-30 hrs.
Date and time of opening of Techno-Commercial Bid	07.10.2020 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 SMP from GST registered Contractors for executing the work.
- The tender document through NIC's CPP Portal for e-Procurement (GePNIC) is open from 16.09.2020 to 06.10.2020 and can be downloaded from the official website of SMP and through NIC's CPP Portal for e-Procurement (GePNIC).
- The complete tender document can be downloaded from SMP 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, SMP.
- 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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**Chief Mechanical Engineer
SMP**

Tender Inviting Authority

Instructions to Tenderers

This is an e-procurement event of SMP. 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.	<p>Online tenders through NIC's CPP Portal for e-Procurement (GePNIC) mode are invited by SMP from GST registered domestic Contractors for executing the work.</p> <p>The tender document through NIC's CPP Portal for e-Procurement (GePNIC) is open from 16.09.2020 (12:00 hrs) to 06.10.2020 (14:30 hrs) and can be downloaded from the official website of SMP and through NIC's CPP Portal for e-Procurement (GePNIC).</p> <p>The complete tender document can be downloaded from SMP 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).</p> <p>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.</p>
2.	<p>The Techno-commercial Bid and the Price Bid shall have to be submitted online at https://eprocure.gov.in/eprocure/app</p> <p>(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.</p> <p>(B) Part – II (Price bid): Would be opened electronically of only those bidder(s) whose Part – I Techno-Commercial bid are acceptable by SMP. Such bidder(s) will be intimated the date of opening of Part II (Price bid) through valid e-mail confirmed by them.</p> <p>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.</p>
3.	<p>All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.</p>

4.	<p>In case of any clarification, please contact SMP (before the scheduled time of the e- tender).</p> <p><i>Contact person (SMP):</i></p> <p>1. Mr. Sourav Mitra Dy. Chief Mechanical Engineer-II Mobile No. 96747 20040 Email :souravmitra@kolkataporttrust.gov.in</p> <p>2. Mr. Sanjib Sarkar Superintending Engineer (Elect)-II Mobile No. 9674720094 Email: sanjib@kolkataporttrust.gov.in</p>
5.	<p>All notices /corrigendum and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by SMP. 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).</p>
6.	<p>E-tender cannot be accessed after the due date and time mentioned in NIT.</p>
7.	<p>(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.</p> <p>(b). The process involves Electronic Bidding for submission of Tender Document Fee and EMD, Techno- Commercial Bid as well as Price Bid.</p> <p>(c). The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.</p> <p>(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.</p> <p>(e). It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.</p> <p>(f). SMP 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.</p> <p>(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.</p>
8.	<p>The e-tender shall be governed by the terms and conditions mentioned therein.</p>
9.	<p>No deviation to the technical and commercial terms & conditions are allowed.</p>

10.	SMP 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 SMP).
15	1. EMD & Tender Fee should reach this office physically before opening of Tender document, failing which techno-commercial bid will not be opened. If tender process could not be finalized within 90 days, the EMD's to be revalidated accordingly.
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 documents and would not be sought afterwards. Non-uploading the same will lead to cancellation of the bid.

Terms and Conditions of Tender

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Pre-qualification Criteria of the Bidders

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

i) The average annual financial turnover of the firm during the last three years ending 31.03.2020 should be at least Rs. 59,38,488/- (30% of estimated value). Audited Balance Sheets as well as 'Profit & Loss Accounts' for the last three financial years ending 31.03.2020 have to be submitted. In the event of non availability of Audited Balance Sheets for the financial year ending 31.03.2020, 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 31.08.2020

a) Three similar completed works each costing not less than Rs. 79,17,984/- (40% of the estimated value).

Or

b) Two similar completed works each costing not less than Rs. 98,97,480/- (50% of the estimated value).

Or

c) One similar completed work costing not less than Rs. 1,58,35,967/- (80% of the estimated value).

Here "similar works" means "Supply, Installation and Commissioning of Transformer, H.T Panel, , L.T panels, laying of HT/LT cable ." 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, SMP, 8, Garden Reach Road, Kolkata -700 043, failing which techno-commercial bid will not be opened. Details of which are as under:**

2.

(a) Demand Draft/Pay Order/ Banker's Cheque from any Scheduled/ Nationalized Bank in original, for **Rs. 1770/- (Rupees One thousand seven Hundred & Seventy Only)** as cost of Tender Document.

(b) Demand Draft/Pay Order/ Banker's Cheque from any Scheduled/ Nationalized Bank in original, for **Rs. 3,95,900/- (Rupees Three Lakh Ninety Five Thousand Nine Hundred Only)** as Earnest Money Deposit.

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

3. 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. **2017-18, 2018-19 & 2019-20**), 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 31.03.2020, 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 SMP 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 SMP, 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. In absence of valid EPF certificate, Documentary evidences in support of non-applicability of registration under EPF Act shall have to be furnished.

(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.**

4. All the document as mentioned here-in-before shall have to be UPLOADED failing which the related offer may 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.

5. 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 may 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.

6. 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.

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

8. The Trustees will not be responsible for any cost or expense incurred by the Tenderer in connection with preparation or submission of the tenders.
9. 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.
10. 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 SMP 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 SMP's website for information of all concerned and the same shall form a part of the Tender Document. Any offer having deviation from SMP's terms and conditions shall render such offer unacceptable to SMP. 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.
11. 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.
12. **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.
13. 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.

14. 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.

15. 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.

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

17. 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

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2. 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 SMP accepts no liability in this regard.
3. Disclosure/indication of price in Techno-commercial part of the tender shall be liable to be disqualified.
4. 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.
5. 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.
6. 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.
7. 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 SMP for loss or damage accrued to any property or rights of SMP whatever, including SMP'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 SMP against all claims enforceable against SMP (or agents/servants/employees of SMP) or which would be so enforceable against SMP where SMP 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.
8. 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**.

9. 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.
10. 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.
11. SMP 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 SMP or any other person on his or their behalf in relation to the acceptance of this tender.
12. 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 SMP. In the event of any Tenderer failing to comply with the aforesaid requirement, the tender/ contract, if entered into, may be terminated.
13. At any time, prior to the last date of submission of Tenders, SMP reserves the right to amend and modify the Tender Document. Such amendment shall be hoisted in CPP Portal as well as in SMP's Portal and SMP 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. SMP 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.
14. 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.
15. 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.
16. 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.
17. **Completion time: Two Hundred Ten Days (210) days from the date of placement of order letter.**

18. 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.

19. 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. The contractor shall have to obtain required RFID Card/Tag by making necessary payment to SMP, Kolkata. However, permits for personnel and vehicles (passenger and goods) for entry inside dock premises, would be given by SMP, Kolkata against application for required number of heads and vehicles for required number of days during pendency of the contract.

B. **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.

C. **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 SMP 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 SMP 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, reflective jackets, 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. SMP 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 SMP.
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 SMP.
35. SMP will provide general security of the entire working area. SMP 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 SMP 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 SMP.**
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. SMP 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 SMP 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 SMP 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 SMP if any one of the stipulated conditions agreed upon by the selected bidder is not met to the satisfaction of SMP. 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 SMP are in case found to be indulging in any undesirable or unfair activities in the premises of SMP, the contractor will solely be responsible for all the consequences apart from the liberty of SMP 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 SMP 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 SMP General Conditions of Contract.

66. **Special / Additional Security** may be arranged by the contractor at the site at no extra cost to SMP over and above the General Security provided within SMP premises by Port Security Authority.

67. In case of any dispute, question or difference either during the execution of the work or any other
68. time as to any matter or thing connected with or arising out of this Contract, the decision of the Engineer, SMP, thereon shall be final and binding upon all parties.

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

70. **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.

71. 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.

72. 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 SMP'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 SMP, 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 SMP is not sure that accurate tax amount is finally reflected in the GSTN to SMP's account and is finally available to the SMP in terms of GST Laws and that the credit of GST taken by SMP is not required to be reversed at a later date along with applicable interest.
- III. SMP 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 SMP for the fault of supplier shall be recovered by SMP by way of adjustment inconsideration payable.
- IV. Supplementary invoices/debit note/credit note for price revision to enable SMP 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. 2017-18, 2018-19 and 2019-20**) 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 31.03.2020, 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 /DIC 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 SMP, 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 SMP in this regard shall be final and binding on the Bidder.

SCOPE OF WORK

NIT No. SMP/KDS/Mech/SE-II/ADV/561 dated 08.09.2020

Name of the work: “Electrical Installation work related to development of Refeer Park behind Lybian Tea Ware House”.

BRIEF SCOPE OF WORK :

1. Supply , delivery , laying , Testing & Commissioning of **3 core, 240 sq.mm. 11 KV (E) XLPE insulated , Al armoured Cable** , from CESC’s incomer switch to HT VCB Panel and from HT VCB panel to new 6KV / 0.415KV Transformers at Sub station.

2 Supply , delivery , installation , Testing & Commissioning of 2 nos. **6KV / 0.415KV, 630 KVA Indoor Transformer** at Sub Station .

6.1.3 Supply , delivery , installation , Testing & Commissioning of a **LT Panel** at Sub Station.

4. Supply, delivery, laying, Testing & Commissioning of **3.5 core, 240 sq.mm & 3.5C, 50sq.mm 1.1KV grade XLPE insulated , Al armoured Cable**,

5. Design, Supply , delivery , installation , Testing & Commissioning of **Feeder pillar Boxes of two types namely PB-1 & PB-2**

6. Design, Supply , delivery , installation , Testing & Commissioning of **Reefer Pillar Box**

7. Design, Supply, delivery, installation, Testing & Commissioning of **2 Nos.** Automatic Power Factor Improvement Panel with Capacitor Bank.

8 Design, Supply, delivery , installation , Testing & Commissioning of 3 nos of 25 meter High Mast Tower with LED luminaries.

9. Internal Wiring of the substation.

10. Necessary Earthing for all electrical installation as mentioned above

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), SMP 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.

Laying of Power Cables and the termination are to be done under continuous supervision of the **Contractor's Engineer / Supervisor**, holding certificate of competency.

The lengths of **Cable run through existing Duct / Trench / Tunnel / Laid Pipe etc.** , as given in the **Bill of Quantities** are indicative only . As depending upon site conditions, there may be little variation in quantity during execution of the work.

The Contractor should arrange, at their own cost, **all necessary tools, tackles, lifting machineries, different vehicular transport**, etc., required for the execution of total work.

Danger Notice Plate (designed as per **IS: 255**) at the 6 KV and 1.1 KV installation shall have to be affixed by the contractor permanently in a conspicuous position in accordance with **Indian Electricity Rules, 1956**

Fire Buckets filled with clean dry sand and ready for immediate use for extinguishing fires, in addition to **Fire Extinguishers** suitable for dealing with electric fire, shall have to be conspicuously marked and kept in the Libyan Sub - Station in convenient situation.

The **Electrical Layout Drawings, Single Line Diagram, Distribution Diagram, Circuit Drawings, LT Panel, Feeder Pillar Boxes**, etc. should be prepared by the Successful Tenderer and the same should be submitted to the Engineer for necessary approval before installation.

AS BUILT DRAWINGS including, but not limited to the followings, to be submitted :

a) **Electrical Layout Drawings** .

b) **Single line electrical schematic drawings**, including **Circuit Drawings , Distribution Diagram and Electrical LT Panel Diagram**

c) Drawing of Feeder Pillar Boxes , Reefer Pillar Boxes and APFC Panel,

d) **Cable Routes** so laid with reference to permanent installations enroute, clearly marking position of the cable thereat showing distance from such references at an interval of 30 metres, where so available

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.

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.

TECHNICAL SPECIFICATIONS

NIT No. SMP/KDS/Mech/SE-II/ADV/561 dated 08.09.2020

A. Technical Specification of 630 KVA , 6 KV / 0.415 KV, 3 Phase, 50 Hz Indoor Type Transformers :

- a) **Rated Power** : 630 KVA
- b) **No load voltage ratio** : 6 KV / 0.415 KV.
- c) **Rated Frequency** : 50 Hz.
- d) **Particulars of Specification to be complied with** : IS 2026.
- e) **Type** : Oil immersed, Indoor type.
- f) **Winding material** : Copper.
- g) **Core Material** : CRGO
- h) **Temperature rise** : The temperature rise should not exceed the limit of 55°C (measured by resistance) of Transformer winding and 50°C (measured by thermometer) in top of oil , when tested in accordance with IS: 2026.
- i) **Tapping** : Tapings on 6 KV side to vary by ± 2.5 , $\pm 5\%$ & $\pm 7.5\%$ by Off Load Tap Changer system.
- j) **Type of Cooling** : Oil Natural Air Natural (ONAN)
- k) **Vector Group Reference** : Dyn11

l) Terminal arrangement for:

6 KV side : Indoor type weather proof Cable Termination Box made of Sheet Steel (duly painted), having arrangement for termination with 1 No., 3 core, 240 sq. mm., 11KV(E) grade XLPE Cable, to be provided.

0.415 KV side : Indoor type weather proof, Cable Termination Box made of Sheet Steel (duly painted), having arrangement for termination with 4 Nos., 3.5 core, 240 sq. mm., 1.1 KV grade XLPE Cable, to be provided .

Neutral : Suitable Neutral on 0.415 KV side to be brought out for earthing (solid earth) purpose.

Mounting : To be mounted on bi-directional wheels.

m) Surface preparation and painting of Tank :

Steel surface should be prepared by sand / shot blast.

Inside : Heat resistance paint (Hot oil proof) should be provided inside the tank.

Outside: On external surface , **two coats of Zinc Chromate** followed by **two coats of synthetic enamel paint of dark admiral grey shade** conforming to **No. 632 of IS 5** , should be provided.

n) **Transformer Oil**: The transformer shall be supplied with first filling of transformer oil as per IS 335.

o) Transformers must be accommodating in the new Transformer Room at Sub Station.

p) Fittings and accessories :

The fittings as given below to be provided:

- i) **Inspection Cover.**
- ii) **Connection diagram / Rating plate.**

- iii) **Terminal marking plate.**
 - iv) **Two earthing terminals.**
 - v) **Lifting lugs** for Transformer Tank.
 - vi) **Drain –cum-sampling valve** with plug or covered plate.
 - vii) **Dehydrating Breather** (supplied with fresh **Silica Gel**).
 - viii) **Thermometer pocket.**
 - ix) **Oil filling hole** with cover.
 - x) **Conservator Tank** with **Oil Level Indicator** with minimum & maximum marking. Shut off valve should be provided between conservator and tank.
 - xi) **Air release devices.**
 - xii) **Filter valve.**
 - xiii) **Winding Temperature Indicator** with **Alarm** and **Trip Contacts.**
 - xiv) **Oil Temperature Indicator** with **Alarm** and **Trip Contacts..**
 - xv) **Under carriage** with 4 Nos. bi-directional wheels.
 - xvi) **Double float Buchholz relay** with **alarm and trip contacts.**
 - xvii) **Marshalling Box** (control wiring from relays & thermometer trip contacts up to the Terminal Box to be done).
 - xviii) **Detachable Radiator Banks.**
 - xix) **Explosion Vent.**
 - xx) **Off Load Tap Changer Switch** having Tap Position Indicator to be provided.
- and other items as per standard practice of manufacturer.

Note : 2 sets of Instruction Manuals for erection, operation & maintenance should be submitted along with the Transformer.

INSTALLATION OF TRANSFORMERS :

At no instance, the Transformers shall be kept on bare ground. The Transformer shall never be left without putting stoppers to the wheels.

If any damage occurs during transit, necessary repair should be done up to the entire satisfaction of the Engineer, without any extra cost.

The Transformer should be placed on the existing foundation with necessary modification, if required. Necessary stopper arrangement of Transformer Wheels should be done. The Transformer should be leveled, aligned and checked for free movement. The stopper should be clamped to the Transformer immediately to prevent any movement. The Transformer may be designed and supplied by the successful bidder after considering modification of trench/ foundation of transformer room and size of the existing transformer rooms.

Testing of Oil :

Samples of oil from the Transformer should be taken from the bottom of the tank. For dielectric test, the oil should be tested as described in IS : 335.

B. 6 KV Vaccum Circuit Breaker Panel:

Supplying, installation, testing & commissioning of indoor type floor mounted metal clad, 6 KV VCB panel with 3 nos. VCBs, (1 incomer & 2 outgoing) totally enclosed & fully interlocked (both mechanical & electrical interlock), suitable for a rapid and smooth interruption of capacitive and fault currents under all conditions, free from re-strikes under all operating conditions, having suitable barrier for each phase and live parts to give total encapsulation and maximum safety, horizontal drawout, horizontal isolation type breaker as per IS 13118 as amended up to date and as per additional specifications

Rated Voltage	6 KV
Rated Current	1250 A. All panels assembled to form a board shall be suitable for the nominal operation voltage and rupturing capacity as specified. They should be rated as specified with a minimum of 630 Amps. and suitable for operation on 7.2 KV(6 KV Service Voltage), 3 phase 50 Hz system. Type test certificate for the breaking capacity of the panel shall be supplied. A circuit breaker for a given duty in service is best selected by considering the individual rated values required by load conditions and fault condition
Rated Breaking Capacity	25 KA
Type of Arc quenching medium	Vaccum
No of Poles	3
Rate voltage of closing & operating device and auxillary circuits	24 Volt – 110 Volt DC (as may be provided by manufacturer) through Power Pack.
Operating Mechanism	Manually charged & motor wound spring charged
Circuit Breaker Compartment	The VCBs are to be mounted on draw-out track & should be equipped with ON /OFF indicator, spring charged / discharged indicator, mechanical ON / OFF push buttons with hand trip device spring release coil, shunt trip coil
Bus-Bar	Epoxy moulded Copper (Electrolytic grade) Busbar of Rectangular cross section, designed to withstand short circuit current upto 25 KA for 3 seconds and continuous current not less than 1250 Amps to be housed in this Compartment. The Busbar & Jumper joints to be covered with Flexible insulated shrouds to ensure that no live parts are exposed in this Compartment.
CT, PT chamber	3 nos. Single Phase Current Transformers of cast resin type having ratio of 100 :5 (for each VCB) and 1 no. Three Phase Potential Transformer for incoming VCB with operation from front only are to be mounted in this Compartment. The Potential Transformer to be connected at the incoming side of the VCB. Draw-out type Potential Transformer track to be provided and necessary cables are also to be terminated in this Compartment

Breaker Truck	<p>The breaker carriage shall be fabricated from steel, providing a sturdy vehicle for the circuit breaker and its operating and tripping mechanism. The carriage shall be mounted on wheels, moving on guides, designed to align correctly and allow easy movement of the circuit breaker and for removing the carriage for inspection and maintenance purposes. Vacuum interrupters shall be hermetically sealed and shall be designed for minimum contact erosion, fast recovery of dielectric strength, maintenance free working, suitable for auto-reclosing. Vacuum interrupters of the circuit breakers shall not be openly exposed design and shall be completely encapsulated in epoxy housing. The drive mechanism shall preferably be provided with facility for pad locking at any position namely, "Service", "Test" and "Fully Isolated". It should be possible for testing the circuit breaker for its operation without energizing the power circuit in the "Testing" position. The contacts shall be made only after the breaker is inserted into service position. Interlocking should prevent contacts from being disconnected if circuit breaker is tried to be moved from service position</p>
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a. CURRENT TRANSFORMER:

- (i) Accommodation shall be provided in the circuit breaker panel to mount one set of three numbers dual core dual ratio CTs for metering and protection purposes. Access to the CTs for cleaning, testing or changing shall be from the front, back or top of the panel.
- (ii) The CTs shall conform to relevant Indian Standards. The design and construction shall be robust to withstand thermal and dynamic stresses during short circuits. Secondary terminals of CTs shall be brought out suitably to a terminal block which will be easily accessible for testing and terminal connections. The protection CTs shall be of accuracy class 5 P 10 of IS 2705- Part III-1992.
- (iii) The metering CTs shall conform to the metering ratio and accuracy class 0.5 of IS 2705-1992 for incomer and class 1 for outgoing panels.

b. VOLTAGE TRANSFORMER:

A voltage transformer of burden not less than 100 VA and of proper ratio as specified shall be provided at the incoming panel. The accuracy class for the VT shall be class 0.5 as per IS 3156 Parts I to III for incomer and class 1 for outgoing panels. The transformer shall be of cast epoxy resin construction. It shall be fixed/withdrawable type. MCBs shall be provided on both HV and LV sides.

c. PROTECTION AND TRIPPING ARRANGEMENT:

- (i) The Relays shall be microprocessor based numerical relays with O/L, E/F and S/C protection Tripping relay shall be used for tripping signal to the Shunt Trip Coil of

Circuit Breaker operating on 110 V VT supply with suitable with suitable power pack. Power pack to be supplied extra along with the switchboard.

- (ii) **Relays:** Over current Relays shall have adjustable setting for current from 50% to 200% and earth fault from 10% to 40% or 20% to 80%. These should be of manual reset type. All relays shall have a LED indicator which will indicate operation for each function. It shall be possible to reset it only by manual operation. The number and types of relays shall be as specified.
- (iii) 110V DC operated High Speed Master Trip relay of manual resetting type.

d. SMALL WIRING:

The small wiring shall be carried out with minimum 1.5 sq. mm FRLS insulated copper conductor cables. CT wiring shall be done with minimum 2.5 sq mm wires with colour code: RYB, Gray for auxiliary DC circuits and Black for auxiliary AC circuits. The wiring shall be securely fixed and neatly arranged to enable easy tracing of wires. Identification tags shall be fitted to all wire terminals to render identification easy and to facilitate checking in accordance with IS 375. Necessary terminal blocks and cable entries shall be provided for RTD relay wiring, power supply etc.

e. METERING INSTRUMENT, PANEL ACCESSORIES (DIGITAL)

- (i) **Instrument Panels:** The instrument panel shall form part of the housing. Relays, meters and instruments shall be mounted as per general arrangement drawings to be submitted by the tenderer. They shall be preferably of flush mounting type at a maximum height of 1800 mm.
- (ii) **Instrumentation:**
 - A. A voltmeter of class 1.5 accuracy as per IS 1248 shall be provided at each incomer panel, with selector switch. The instrument shall be calibrated for the ranges specified.
 - B. Ammeter of specified range of class 1.5 accuracy as per IS 1248 shall be provided at both incomer and outgoing panels along with necessary selector switches.
 - C. Energy meter: 3 Ph. 3 wire 5A CT Operated, of Class 0.5 Accuracy.
 - D. Multifunction meter: Type - Flush mounted, sealed, dustproof construction (Front - IP 5X and Rear - IP 4X), multifunctional, display: Alphanumeric LCD display having capacity to display 3 parameters simultaneously with auto scaling capabilities for Kilo, Mega, Giga. Display parameters - Voltage, Current, PF/Frequency and all energy and power parameters with auto scaling. Accuracy class - 0.5.
Keypad: front panel keypad with keypad lock and password protection for setting parameters.
 - E. The panel assembly shall also take care of the following requirements:
 - a. Lamp indication shall be provided to indicate ON/ OFF (by red green respectively) of switch gear.
 - b. Panel illuminating lamp.
 - c. Mechanical indication for spring charged status. If possible an indicating lamp could be provided.

- d. Lamp indicating tripping at fault status.
- e. Healthy trip supply shall be indicated by clear lamp.
- f. Separate MCBs shall be provided for lamps, heaters, voltmeters and other instrumentation etc. on each panel.
- g. Anti-condensation space heaters shall be provided, and shall be suitable for operation on 240 V, 1 phase, 50 Hz A.C. for each panel.
- h. Where there is more than one incomer and bus sections, these shall be castle key interlocked as per interlocking scheme as specified.

The LT Chamber should accommodate the followings

For Incomer VCB, this additional feature should also be provided-

i)	IDMT type Over Current & Earth Fault Protective Relays (element of 5A), with high set instantaneous unit
ii)	Trip circuit supervision relay -
iii)	Master trip relay -
iv)	Trivector meter,
vi)	Digital Ammeter -
vi)	Digital Voltmeter -
vii)	Breaker control Switch -
viii)	Common Alarm Hooter -
ix)	Indication lamp CB ON, OFF, TRIP, Trip circuit Healthy, Spring Charged -
x)	Indication lamp R, Y, B -
xi)	Panel illumination lamp -
xii)	3pin 6A Socket -
xiii)	Space Heater & Thermostat -.
xiii)	Surge Arrester -

For Outgoing VCBs, this additional feature should also be provided:-

i)	Under Voltage relay & motor protection relay
ii)	Auxiliary relay for transformer fault -
iii)	Trip circuit supervision relay -
iv)	Master trip relay -
v)	Digital Ammeter -
vii)	Breaker control Switch -
ix)	Indication lamp CB ON, OFF, TRIP, Trip circuit Healthy, Spring Charged
x)	Panel illumination lamp -
xi)	3 pin 6 Amp Socket -
xii)	Space Heater & Thermostat -

i. CABLE ENTRY:

The VCBs should be suitable for termination of 3 X 240 sq mm XLPE insulated, 11 KV (E) cable entry from bottom, end termination with heat shrinkable jointing materials etc. as

required and suitable size earth bus needs to be provided along with 3 mm thick removable gland plate shall be provided for cable termination.

j. EARTHING:

The earthing of the breaker body and moving portion shall be so arranged that the earthing of the non-current carrying structure to the frame earth bar is completed well before the main circuit breaker plugs enter the fixed house sockets. The entire panel board shall have a common tinned copper earth bar of suitable section with 2 earth terminals for effectively earthing metallic portion of the panels.

The panel and breaker should be from OEM only

Installation of VCBs.

The Complete VCB Panel should be of Floor Mounted, Indoor, Free Standing type. Degree of protection not less than IP 4X and is to be installed after dismantling of the existing OCB panel. The Panel should consist of **fabricated Sheet Steel Enclosures** (duly painted) with thickness not less than 2.5mm for load bearing part and 2mm for non-load bearing part.

The panel shall be wired up with PVC flexible Cu Conductor Cable for control wiring while CT wiring shall be also with PVC flexible Cu Conductor Cable of appropriate dimension. The Panel should have adequate size and should be completed with wiring, Earthing bar, fuses, links, internal panel lighting arrangement (operated by a door switch), space heater, un-drilled Cable Gland Plate, etc. Suitable **Cable Termination arrangement for 1 nos. incomer VCBs and 2 nos outgoing VCBs are** to be provided. Necessary interlocks & safety devices including Earthing arrangements to be provided along with the VCB Panel. All metallic non-current carrying parts is to be earthed.

Copper ground earth bus extending the entire length of the panels are to be provided with suitable clamp type terminals for connection of both ends of the bus to the earth pit. **Mimic Diagram and Symbols** showing the exact representation of the system complete with **Symbols & Colour Strips** to represent the Buses, etc. should be provided in the front of the Control Panel.

Two sets of Instruction Manuals for Erection, Operation & Maintenance and two sets of Drawings for Equipment Details should be submitted along with the above Vacuum Circuit Breaker panel.

TESTING AND COMMISSIONING:

Procedure for testing and commissioning of relay shall be in general accordance with good practice.

Commissioning checks and tests shall include in addition to checking of all small wiring connections, relays calibration and setting tests by secondary injection method and primary injection method. Primary injection test will be preferred for operation of relay through CTs. Before panel board is commissioned, provision of the safety namely fire extinguishers, rubber mats and danger board shall be ensured (HV Panel should be inclusive of cost of providing fire extinguisher, rubber mats, danger boards etc.).

In addition all routine megger tests shall be performed. Checks and test shall include following:

- (a) Operation checks and lubrication of all moving parts.
- (b) Interlock function checks.
- (c) Continuity checks of wiring, fuses etc. as required.
- (d) Insulation tests.
- (e) Trip test and protection gear tests.
- (f) The complete panel shall be tested with 5000 V megger for insulation between poles and poles to earth. Insulation test of secondary of CTs and VT to earth shall be conducted using 500 V megger.
- (g) Any other tests as may be required by the Licensee / Inspector/ Engineer or his representative shall be conducted.
- (h) Where specified, the entire switch board shall withstand high voltage test after installation.
- (i) Any other test required by the consignee/ inspecting officer/ Engineer or his representative.

j. DRAWING:

Two sets of Instruction Manuals for Erection, Operation & Maintenance and three sets of Drawings for Equipment Details should be submitted along with the above Vacuum Circuit Breaker panel.

C. CABLES:

Technical Specification of 3 Core, 240 sq. mm., 11 KV (E) grade, Cross Linked Polyethylene (XLPE) Cable :

The cables should be generally compliance with IS 7098 (Part-2) / 1985 or latest amendment if any with following specifications :

Conductor : Stranded Aluminium comply to IS : 8130 - 1984 or latest amendment if any,
Colour coded,

Voltage Grade : 11KV(E),

Insulation : XLPE ,

Screening : Metallic with extruded semiconductor,

Inner Sheathed : Extruded PVC,

Armour : Galvanized Steel Strips,

Outer Sheathed : Extruded PVC,

The cables should be supplied with returnable drum.

Technical Specification of 3.5 Core, 240 sq. mm, 3.5c, 50 sq mm ., 1.1 KV grade, Cross Linked Polyethylene (XLPE) Cable :

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

Conductor : Stranded Aluminium comply to IS : 8130-1984 or latest amendment if any,
Colour coded,

Voltage Grade : 1.1KV,

Insulation : XLPE ,

Inner Sheathed : Extruded PVC,
Armour : Galvanized Steel Strips,
Outer Sheathed : Extruded PVC,

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

± 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.

Laying:

Before laying of Power Cables, Cable Routes should be checked properly to avoid interference with the existing cables, structures, drains, pipings, etc. as far as possible and minor adjustments to be done to suit the field conditions, wherever deemed necessary, without any extra cost.

Cable Routes should be carefully measured and the contractor shall ascertain the exact requirement of cable for a particular feeder, avoiding interference with existing cables, structure, foundation, pipelines, etc. Sufficient lengths are to be kept for the final connections of the cables to the terminal of the equipment. Various cable lengths cut off from the Cable Reels should be carefully selected to prevent undue wastage of cables. Continuous length of cables in each drum should be ascertained considering no straight through joints takes place.

The cables should be neatly arranged in the Trench / Trays / Pipes in such a manner so that criss-crossing is avoided and final take off to the equipment / switchgear is facilitated.

Cable is to be laid in existing ducts at the bottom of the floor of the Sub station with necessary protection. Cable is also to be laid in the existing concrete Cable Trenches with removable covers / Chequered plate inside Sub-station / Switch-Station. Cables should be laid in tiers with requisite spacing in these trenches as per directive of the Engineers. Where covers/chequered plate is not available, the same is to be provided by the successful tenderer. Concrete cable trenches should be filled with sand where required to avoid accumulation of hazardous gasses. Covers of trenches should be effectively sealed by the contractor to avoid ingress of water, etc.

When cables pass through foundation walls, or other underground structures, if necessary, ducts or opening shall have to be provided, by the contractor. However, shall it become necessary to cut holes in the existing foundations or structures, the contractor should obtain consent from Engineer, before cutting is done. Cutting, if necessary and mending good of any cut portion should be done by contractor at his cost and risk.

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.

After re-filling the trench with sand, **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 to 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 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 .

TERMINATION OF CABLES

All XLPE HT Cables 11KV(E) Grade shall be terminated at the equipment with the help of Heat Shrinkable End Termination Kit (Indoor type).

All XLPE LT Cables 1.1 KV Grade shall be terminated at the equipment by means of double compression type Nickel plated Brass Cable Glands.

All cable entries should be through bottom only (Top entry terminations may be done only after getting consent of the Engineer). The cables should be entered through Glands inside the electrical equipments.

Power Cables, wherever colour coding is not available, should be identified with **Red, Yellow & Blue PVC tapes** for the purpose of identification.

Where copper to aluminium connections are made necessary bi-metallic washers should be used. In case of termination of cables at the bottom of a panel over a cable trench, having no access from the bottom, close fit hole should be drilled on the bottom plate for all the cables in one line, then bottom plate should be split in two parts along the center lines of holes. After installation of bottom plate and cables, it should be sealed with cold setting compound. Cables should be clamped either with copper or G.I. Strip over the open armouring to connect it to the earth bus.

Cable Leads should be terminated at the equipment terminals, by means of crimped type solderless Aluminium connector. Crimping should be done by hand crimping / hydraulically operated tool and conducting jelly should be applied on the conductor. Insulation of the leads should be removed immediately before the crimping. Conductor surface should be cleaned and should not be left opened.

This scope includes supply of all materials including Complete Termination Kits with Lugs and all accessories and necessary clamping arrangement (for HT Cable) for bottom entry at the Panel / Transformers.

Necessary modification for termination and cable entry of cable at Transformer end is to be carried out by the successful tenderer.

D. LT Panel

a. GENERAL CONSTRUCTION:

- (i) The Distribution panels shall be suitable for use on medium voltage at 415V, 3 phase, 4 wire, 50 Hz AC system.
- (ii) The Panel shall be Total Type Tested (TTA) in-house (factory assembled from OEM: Original Equipment Manufacturer) indoor type having incoming sectionalization

and outgoing switchgears as specified. The design shall be cubical type. The degree of enclosure protection shall be IP 54 as per IS 13947 (Part-I).

- (iii) The switchboard shall be floor mounted free standing totally enclosed and extensible type and shall be form 3b construction. The switch board shall be dust & vermin proof and shall be suitable for the climate conditions as specified. The design shall include all provisions for safety of operation and maintenance personnel. The general construction shall conform to IS 8623:1993 for factory assembled switch board.
- (iv) The Distribution panels shall be totally enclosed, dust and vermin proof and shall be with hinged front/ rear doors and folded covers, Neoprene rubber gasket, padlocking arrangement and bolted back.

b. CUBICAL TYPE PANELS:

Cubical type panels shall be fabricated out of sheet steel not less than 2.0 mm thick. Wherever necessary, such sheet steel members shall be stiffened by angle iron frame work. General construction shall employ the principle of compartmentalization and segregation for each circuit. Unless otherwise approved, incomer and bus section panels or sections shall be separate and independent and shall not be mixed with sections required for feeders. Each section of the rear accessible type panel shall have hinged access doors at the rear. Overall height of the panel shall not exceed 2.4 meters. Operating levers, handle etc. of highest unit shall not be higher than 1.7 meters. Multi-tier mounting of feeder may be permissible, if the general arrangement for multitier construction shall be such that the horizontal tiers formed present a pleasing and aesthetic look. The general arrangement shall be approved before fabrication. Cable entries for various feeders shall be from bottom. Through cable alleys located in between two circuit sections, either in the rear or in the front of the panel. All cable terminations shall be through gland plates. There shall be separate gland plate for each cable entry so that there will not be dislocation of already wired circuits when new feeders are added. Cable entry plates shall therefore be sectionalized. The construction shall include necessary cable supports for clamping the cable in the cable alley or rear cable chamber.

Cubicle panels with more than 1000 Amps bus shall be made of tested structural modular sections.

c. BUS BAR AND CONNECTIONS:

Bus bar and interconnections shall be made of high conductivity electrolytic grade copper as indicated in the bill of quantities(BOQ) complying with IS : 5082 – 1981 and of rectangular cross section suitable for carrying the rated full load current and short circuit current and shall be extendable on either side. Bus bars and interconnections shall be insulated with heat shrinkable sleeve of 1.1 KV grade and shall be colour coded. Bus bars shall be supported on glass fiber reinforced thermosetting plastic insulated supports at regular intervals to withstand the mechanical force arising from a possible short circuit in the system. All bus bars shall be provided in a separate chamber and all connections shall be done by high

tensile bolts. Additional cross sectional area to be added to the bus bar to compensate for the holes. All connections between bus bars and breakers shall be through solid copper strips of proper size to carry full rated current and insulated with insulating sleeves.

The neutral bus bars shall be designed to carry at least 50 percent continuous current rating of the main bus bars.

Maximum allowable temperature for the Bus bar to be restricted to 85°C.

d. INCOMER / TERMINATION:

Incomer termination shall be suitable for receiving underground cables. Cable terminations shall invariably be through terminal blocks (Polyamide or superior) or brought out solid terminals.

e. SMALL WIRING:

All small wiring for Controls, Indication etc. shall be with suitable FRLS copper conductor cables. Wiring shall be suitably protected within switch board. Runs of wires shall be neatly bunched, suitably supported and clamped. Means shall be provided for easy identifications of the wires. Identification ferrules shall be used at both ends of the wires. All control wiring meant for external connections are to be brought out of terminal board.

f. OPERATIONAL REQUIREMENTS:

The indoor type MV panel and Air Circuit Breaker shall conform to the following:

- (i) The panel shall comprise of incomers, outgoing feeders and bus coupler as specified.
- (ii) All incoming AIR CIRCUIT BREAKER shall have suitable adjustable tripping current and the time delay settings.
- (iii) The incomer panel shall be suitable for receiving cable of size specified either from bottom.
- (iv) The entire switch panel shall be cubical type generally conforming to IS 8623:1993 for factory assembled switch board.
- (v) The entire panel shall have a common earth bar of size as specified with two terminals for earth connections.

g. RATING AND REQUIREMENTS:

All Air Circuit Breakers shall be 4 pole with minimum 50 KA breaking capacity (approx. 35 MVA at 415V) conforming to IS 13947 (Part-II). Rated current shall be as per capacities specified. The equipment shall be complete with the following:

- (i) Necessary circuit breaker carriage with 3 position (isolate, test, service) draw out mechanism.
- (ii) Necessary isolating plugs and sockets.
- (iii) Necessary mechanism interlock and automatic safe shutters gear with arrangement for pad locking.

- (iv) Necessary independent manual spring mechanism with mechanical On/Off indication as well as electrical On/Off indication.
- (v) Necessary bus bars with bolted type neutral links.
- (vi) ACB shall be provided with microprocessor based releases having built in over load, short circuit & earth fault protection(as per BOQ). Microprocessor release shall be EMI (Electro Magnetic Induction)/ EMC (Electro Magnetic Compatible) certified. 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.
- (vii) Necessary set of auxiliary switches.
- (viii) Necessary set of CTs with ratios as specified.
- (ix) Necessary identification, metering requirements as specified i/c. ON/OFF indication lamps, selector switches, fuses, ammeter, voltmeter etc.
- (x) In case of 4 pole breaker neutral shall be fully rated with adjustable settings from 50% to 100% of In (Rated Current).
- (xi) ACB terminals shall be suitable/ suitably brought out for direct termination as per IS 13947 Part-II.
- (xii) Should be suitable for a rapid and smooth interruption of capacitive and fault currents under all conditions.
- (xiii) Should be free from re-strikes under all operating conditions.

Should have suitable barrier for each phase and live parts to give total encapsulation and maximum safety

The Main LT panel (TTA-OEM) shall comprise of following accessories –

- (i) 02 No 1250A ACB ,50KA,4 Pole EDO with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 10 In and EF-20% TO 80% as well independent Making current release as Incomer
- (ii) 01 No 1250A ACB ,50KA,4 Pole EDO with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 10 In and EF-20% TO 80% as well independent Making current release as Buscoupler
- (iii) 14Nos. 800A ACB ,50KA,4 Pole EDO with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 10 In and EF-20% TO 80% as well independent Making current release as outgoing
- (iv) All Busbar should be suitable rating of copper.
- (v) Suitable rating of earthing Busbar GI make.
- (vi) Power indication and all switchgear ON/OFF/TRIP indication should be wired with cu flexible 1.5 sq cable
- (vii) All feeder including both incomer and buscoupler has to be included with ammeter and voltmeter (Digital-LED).

- (Viii) Both incomer should be reading by Multifunction meter to monitoring purpose.
- (ix) Digital Display type Ammeter with Selector Switch (for each ACBs , except Bus Coupler).
- (x) Digital Display type Voltmeter with Selector Switch [for Incomer ACBs],
- (xi) Static KWH Meter & Maximum Demand Meter (for Incomer ACBs),
- (xii) Necessary Indication Lamps for Incomers, Outgoing Feeders,
- (xiii) Any other equipments considered necessary to make the Panel complete in all respect

LT Panel (TTA-OEM): It is to be made of MS with opening on both sides and double door arrangement on front opening side having IP-54 protection fabricated from 3.15mm thick sheet steel and of size approved by Engineer . The box shall be painted with epoxy painting on outside surface and two coats of synthetic enamel paint of approved colour over one coat of red lead paint on inside surface (in accordance with IS 13032, IS 8623) of the MS box complete closed door design. Gland plate should be punched for entry of 02 nos. 3.5C x 240 sq. mm., 1.1KV Grade XLPE cable.

Installation:

Base Channels / Angles of the LT Panel must be painted by two coats of Red oxide followed by two coats of Black enamel paint. Suitable sizes of painted 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 leveled and it should be ensured that panel to panel Coupling Bolts, Bus Bar Links fit properly without any strain on any part. Lowering, lifting, racking in and out operation of the Breaker should be checked and all other motions are free from any obstruction. The Fixing Bolts should be grouted only after satisfying all these requirements. Cost of necessary modification of cable trench in the Sub - station for installation of LT panel is to be considered in the cost of installation of LT Panel.

The Panels shall be checked for correct vertical position using pendulum weight and spirit level. 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. All the control wiring, Bushings, Bus Bars, other live parts of Switch Gears, Incoming & Outgoing Cables should be meggered with 500 Volt Megger . 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.

h. TESTING AND COMMISSIONING

Commissioning checks and tests shall include all wiring checks and checking up of connections. Relay adjustment/setting shall be done before commissioning in addition to routine Megger tests. Checks and tests shall include the following:

- i. Operation checks and lubrication of all moving parts.
- ii. Interlock function checks.

- iii. Continuity checks of wiring, fuses etc. as required.
- iv. Insulation test: When measured with 500 V Megger the insulation resistance shall not be less than 100 mega ohms.
- v. Trip tests and protection gear test.

Note: TEST AT MANUFACTURERS WORK: All routine tests shall be carried out and test certificates produced to the department.

E. Pillar Boxes

(a)PB Type -1

- (i) 02 No 250A MCCB ,35KA,4 Pole with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 12 Ir and EF-20% TO 100% of In, as incomer
- (ii) 07 Nos 100A MCCB ,25KA,4 Pole with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 12 Ir and EF-20% TO 100% of In, as outgoing.
- (iii) All Busbar should be suitable rating of copper.
- (iv) Suitable rating of earthing Busbar GI make.
- (v) Power indication and all switchgear ON/OFF/TRIP indication should be wired with cu flexible 1.5 sq cable.
- (vi) All feeder including has to be included with ammeter and voltmeter

(b) PB Type-2

- (i) 01 No 400A MCCB ,35KA,4 Pole with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 12 Ir and EF-20% TO 100% of In, as incomer
- (ii) 04 Nos 100A MCCB ,25KA,4 Pole with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 10 In and EF-20% TO 100% of In, as outgoing
- (iii) All Busbar should be suitable rating of copper.
- (iv) Suitable rating of earthing Busbar GI make.
- (v) Power indication and all switchgear ON/OFF/TRIP indication should be wired with cu flexible 1.5 sq cable
- (vi) All feeder including has to be included with ammeter and voltmeter

(c) Reefer Pillar Box

- (i) 01 nos. 100A, 4 Pole MCCB of 25 KA with Microprocessor based protection release with over load (40% to 100%) S/c -2 To 10 In and EF-20% TO 100% of In,as incomer
- (ii) 04 nos. 32A TP MCB 10KA as outgoing unit
- (iii) 04 nos. 32A, 415V,(TP+E) panel mounted Industrial Plug socket
- (iii) All Busbar should be suitable rating of copper.
- (iv) Suitable rating of earthing Busbar GI make.

Installation of Pillar Boxes:

The pillar boxes are to be made of MS with opening on both sides and double door arrangement on front opening side having IP-66 protection fabricated minimum 2.5 mm thick sheet steel and of size approved by Engineer . The box shall be painted with epoxy painting on outside surface and two

coats of synthetic enamel paint of approved colour over one coat of red lead paint on inside surface (in accordance with IS 13032, IS 8623) of the MS box complete closed door design. Gland plate should be punched for entry of 02 nos. 3.5C x 240 sq. mm., 1.1KV Grade XLPE cable.

The Feeder Pillar boxes shall be installed on existing masonry trench by suitable nuts & bolts after grouting the bolts in the masonry trench foundation . The Panels shall be checked for correct vertical position. All the wiring connections should also be checked with drawings and tightened. All openings should be sealed to avoid ingress of any foreign particles inside the panels. All the wiring, Bus Bars, other live parts, Incoming & Outgoing Cables should be checked with 500 Volt Megger. Supply of all materials including hardware materials, as required, is under the scope of the Contractor. The boxes shall be double earthed through earthing system.

F. APFC Panel:

Supply, Installation, Testing & Commissioning of 2 nos of 350 KVAR APFC Panel(OEM make) with 14 stage Capacitor. The APFC controller should be able to control the pf consistently at optimum range (i.e around 1) at all load conditions without any hunting problem and ensuring smooth voltage regulation. The capacitor compensation by each APFC controller should be released by measuring the reactive power of the system through CT. The capacitor banks should be protected from high inrush currents during switching. The capacitors should have the protection of over-voltages or surges during switching or re-switching by ensuring proper discharge of capacitors before switching . A time-delay of min 30sec+above setting should be provided for same bank switching. Capacitors should be of continuous duty type & should be suitable for very frequent switching operations. All materials supply, installation, testing & commissioning including CTs, PTs, wires lugs etc are to be done by copper wires of suitable rating of approved make with proper lugs & ferrules.

- i. Rating of APFC Panel : 350 KVAR (OEM make) with 14 stage Capacitor
- ii. Quantity : 2 no
- iii. Mode : Auto & Manual
- iv. Rated Voltage : 415 V
- v. Rated Frequency : 50 Hz
- vi. No. of Phase : 3 Phase
- vii. Enclosure Details : The enclosure is to be built of sheet steel not less than 2 mm thick and should be hot dip galvanized or shall be coated with anti-corrosive epoxy base paint with a colour of light gray shade. It should be dust and moisture proof and proper door sealing arrangement shall be provided with neoprene rubber gasket. It should be Free Standing & Floor Mounting with Non-Compartmentalized Design and should be front access. The APFC enclosure should be compact in size for indoor application.
- viii. Protection : IP-40 /IP-41
- ix Capacitors. : 3 phase, dry type, cylindrical , self healing metalized polypropylene capacitors
- x. Cooling : Natural

xi. Cable Entry	: Bottom
xii. Discharge Resistors	: Adequate discharge resistors shall be provided for each capacitor cell to reduce the voltage after disconnection of supply voltage.
xiii. Inrush current limiters	: Inrush current limiters shall be included for each step in the capacitor bank assembly. Inrush current limiters shall be three phase iron core type
.	
xiii. Switchgear Details	
Incomer	: ACB 3 pole 50KA ,EDO, with Microprocessor base release for overload and short circuit , EF and independent Making current release.
Outgoing	: 125A TP MCCB with only short circuit protection---3 Nos for 50kvar Bank. : 63A TP MCCB with short circuit protection -9 Nos for 15 Kvar to 25 Kvar bank. : 32 A TP MCCB with short circuit protection for 5 Kvar bank.
xiv. Contactors	: Three pole capacitor duty contactors of adequate ratings for respective steps with mechanical ON-OFF indication shall be used.
xv. Protection relays	: APFC relay Controller should sense the KVAR required to achieve preset target pf by automatically switching ON / OFF the capacitor unit. The capacitor compensation should be released by measuring the reactive power of the system. The APFC relay must be a minimum of 14 stage microprocessor based relay having circular or linear switching modes maintaining a constant power factor .
xvi. Indication	: The APFC panel shall display the following a.)PF, b.)lag/lead status, c.)Total capacitance in line (in terms of KVAR), d.)active power e.)Reactive power f.)Apparent power g) Voltage , current , Freq display.
xvii.Safety	: Over Pressure Disconnecter

Installation.

The APFC panel shall be floor mounted and is to be installed inside the substation and should be adequately earthed.

G. 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 lighting 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	:	To be mentioned by the bidder

	Carriage Ring.		
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.

Feeder Pillar Box for High Mast Lighting Tower

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 – 65 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.

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.

H. LED Based Luminaries Unit

(i) 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.

(ii) 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.

(iii) **LED FLOOD LIGHT LUMINARIES SPECIFICATIONS:**

a. **LED:**

- 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.
- System Lumen Output: Min 40000 for 400 watt flood light luminaries.
- 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.
- LED used should be of SMD (Surface Mounted Device) type only. 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).
- 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.
- 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.
- Beam Angle: Medium (30-60 degree).
- 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.

- ix. Colour Rendering Index (CRI): Greater than or equal to 70 and should include all colour range of R1 to R15, with R9>0.
- x. 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.
- xi. 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.
- xii. Junction temperature of LED Chip shall not exceed 100 Deg. C in case of SMD.
- xiii. Make of SMD type Chip: Nichia, Osram, Lumileds (Erstwhile Philips Lumileds), Cree.
- xiv. There should not be any assembly of 2nos of 200W or 4 nos of 100W luminaries to make it a 400W luminaire. Accordingly the driver unit to be provided for 400W should be a single one and not assembled one for 2 nos of 200W or 4 nos 100W

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.

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

I Earthing:

Earth Electrode should be made of 3 m. long GI Pipe (TATA – Medium) of nominal bore 65 mm. (as per IS: 1239). The tube shall have perforated hole of 12 mm. dia at a cross distance of 75 mm. 260 mm. long G.I. Plate of size 50 mm. x 6 mm. (with 4 Nos. 10 mm. dia. tap hole, bend to shape of pipe) to be welded at 100 mm. below the top of tube for connection of Earth Strip. G.I. Funnel / Cap to be provided on top of the tube. Earth Electrode to be driven in the Earth Pit filled up with alternate layer of Charcoal and Salt. Earth Pit should be provided with suitable size Brick Masonry and Inspection Chamber with removable Cast Iron Cover with handle as per BOQ. Excavation of Earth, Back Filling, Masonry Work and connecting of Earthing Electrode with 2 Nos. of 50 mm. x 6 mm. G.I. Strip shall be within the Scope of Work.

104 of such earth pits are to be made.

a) Out of them **32 nos** of earth pits are to be made near the Sub station. Out of the 32 , **8 nos** for Neutral Earthing of 2 nos. 630 KVA, 6KV/415V Transformer (4 nos. Earth Pits for each Transformer) and to be interconnected separately, using 50 mm. x 6 mm. G.I. Strip. Connection of the Transformer Neutral with this Earth Grid using 50 mm. x 6 mm. G.I. Strip is also under the scope of the contractor. **8 nos.** Earth Pits, will be used for Earth Bus of LT Panel to be interconnected separately, using 50 mm. x 6 mm. G.I. Strip. Connection of the Earth Bus with this Earth Grid using 50 mm. x 6 mm. G.I. Strip is also under the scope of the contractor. **8 nos.** Earth Pits should also be interconnected (using 50 mm. x 6 mm. G.I. Strip) to form a separate Earth Grid , which will provide a common ground for Transformers. **8 nos.** Earth Pits, to be

used for Earth Bus of HT VCB Panel and are to be interconnected separately, using 50 mm. x 6 mm. G.I. Strip. Connection of the Earth Bus with this Earth Grid using 50 mm. x 6 mm. G.I. Strip is also under the scope of the contractor.

b) Remaining 72 nos of earth pits are to be made in various platforms for housing the Reefer Park. Out of them, 12 nos of earth pits in each of 3 platforms where there will be container on both sides. 4 no of earth pits in the smallest platform and remaining 32 nos of earth pits to be distributed among single side container placement platforms.

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
Transformer	VoltAmp/BHEL/Crompton Greaves /GE/Schneider/ Kirloskar/JYOTI
VCB Panel	ABB/Siemens/Schneider/C & S/ L&T/Legrand
ACB Panel	ABB/Siemens/Schneider/C & S/ L&T/Legrand
VCB/ACB/MCCB/MCB/Contactor	ABB/Siemens/Schneider/C & S/ L&T/Legrand
APFC Panel	ABB/Siemens/Schneider/C & S/ L&T/Legrand/EPCOS
Cables	Polycab/Gloster/Havells/KEI/ CCI
PVC Copper wire for internal wiring	Finolex /Havells / Anchor National/Polycab.
Cable termination Kit	Raychem/ 3M/ Denson
Reefer Industrial Plug	Mennekes/C&S/Legrand

Relays, CT, PT	ABB/Schneider/C&S/L&T/ Siemens/Legrand
Toggle switch, Push button, Multifunction Meter, Time switch, Selector Switch	Kaycee/AE/Siemens/L&T/ C&S/ ABB/ Schneider/ Legrand/Sulzar.
High Mast Lighting Tower	Bajaj/Transrail/VALMONT
LED Luminaries	Phillips/Bajaj/Havells/Wipro/ Crompton
Ceiling Fan /Exhaust Fan	Bajaj/Usha/Crompton/Orient

Note:

- Any other make except the aforementioned List of Preferred Makes for any equipment/material may be accepted subject to such items shall comply all the technical specifications / requirements mentioned in the tender documents.
- Request for consideration of such additional make of items shall be supported with certificate from any Central Govt Organisations, Public Sector Units, PWDs regarding satisfactory working/ performance of those items during the last three years (minimum) prior to the starting date of submission of e-tender.
- If any additional make for any item is proposed, the same shall be indicated in the column mentioned below and it should be duly signed and uploaded along techno-commercial bid.

Item	Preferred Make	Additional make of items, if any
Transformer	VoltAmp/BHEL/CromptonGreaves/GE/Schneider/ Kirloskar/JYOTI	
VCB Panel	ABB/Siemens/Schneider/C & S/ L&T/Legrand	
ACB Panel	ABB/Siemens/Schneider/C & S/ L&T/Legrand	
VCB/ACB/MCCB/MCB/Contactor	ABB/Siemens/Schneider/C & S/ L&T/Legrand	
APFC Panel	ABB/Siemens/Schneider/C&S/ L&T/ Legrand/EPCOS	
Cables	Polycab/Gloster/Havells/KEI/ CCI	
PVC Copper wire for internal wiring	Finolex /Havells /Anchor National/Polycab.	
Cable termination Kit	Raychem/ 3M/ Denson	
Industrial Plug	Mennekes/C&S/Legrand	
Relays, CT, PT	ABB/Schneider/C&S/ Siemens/Legrand	
Toggle switch, Push button, Multifunction Meter, Time switch, Selector Switch	Kaycee/AE/Siemens/L&T/ C&S/ ABB/ Schneider/ Legrand/Sulzar/.	
High Mast Lighting Tower	Bajaj/Transrail/VALMONT	
LED Luminaries	Phillips/Bajaj/Havells/Wipro/ Crompton	
Ceiling Fan/Exhaust Fan	Bajaj/Usha/Crompton/Orient	

- If at any stage it is found that the item offered with make other than the preferred make mentioned as above is not acceptable due to non-fulfillment of the afore-stated criteria or otherwise, the bidder is bound to supply items of preferred make with no additional cost.

Inspection & Testing

Inspection and testing will be carried out by SMP 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

SMP 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 Transformers, HT Panels, LT panels, cables, High Mast and LED luminaries, Feeder Pillar Box etc. will be carried out by SMP 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.

PREAMBLE TO THE BILL OF QUANTITIES

Notice Inviting Tender No.: SMP/KDS/Mech/SE-I/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.

Notice Inviting Tender No.: SMP/KDS/Mech/SE-II/ADV/561 dated 08.09.2020**Bill of Quantities**

Sr.N O	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
1	Supply & delivery at site Indoor type, copper wound 630KVA, 6 /0.415 KV , DY11, ONAN cooled transformer	2	nos	1200000	2400000
2	Installation, Testing and Commissioning of new Transformers at new substations including earthing	2	No	120000	240000
3	Supply and delivery of 11KV (E), 3C X240sqmm, XLPE insulated armoured Al conductor HT cable	250	Metr	968	242000
4	Laying of the aforesaid HT cable in the trench of substation	250	meter	487	121750
5	Supply, Delivery of End Termination Kits suitable for above mentioned cable	6	nos	9467	56802
6	Installation, testing and commissioning of HT cable end termination kits	6	nos	1064	6384
7	Supply, delivery of 6 KV, 1250 A, 40KA rated 3 panel Vaccum Circuit Breaker (VCB) with one incomer and 2 no as outgoing	1	lot	2700000	2700000
8	Installation of the Vaccum Circuit Breaker	1	nos	270000	270000
9	Supply and delivery of 1.1KV, 3.5C, 240sqmm , XLPE insulated armoured Aluminium cable	2900	metrs	724	2099600
10	Laying of the aforesaid cable in masonry trench	2900	metrs	487	1412300
11	End Termination of the cable	118	Sets	1191	140538

Sr.N O	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
12	Supply, delivery of 1.1KV 3.5C, 50 sqmm XLPE insulated armoured Aluminium cable	200	metr	190	38000
13	Laying of the above cable in masonry trench	200	metr	172	34400
14	End Termination of the cable	6	Nos	406	2436
15	Supply and delivery of LT panel having 2 Nos 1000A ACB as incomer, 1 No 1000A ACB as bus coupler and 14 nos of 630A ACB as outgoing	1	No	3036422	3036422
16	Installation of the aforesaid LT panel in the substation by grouting	1	No	25000	25000
17	Supply and delivery of Pillar Box Type-1 having 2 Nos 400 A MCCB as incomer, 7 nos of 150 A MCCB as outgoing	4	Nos	128069	512276
18	Installation of the aforesaid pillar box on masonry platform	4	nos	10000	40000
19	Supply and delivery of Pillar Box Type-2 having 1 Nos 400 A MCCB as incomer, 4 nos of 150 A MCCB as outgoing	4	Nos	93624	374496
20	Installation of the aforesaid pillar box on masonry platform	4	Nos	10000	40000
21	Supply and delivery of Reefer pillar Box having 36KA, 150A MCCB as incomer and 4 nos 32A, TP MCB as outgoing	36	nos	41864	1507104
22	Installation of the Reefer Pillar box on masonry Platform	36	Nos	5000	180000
23	Supply and delivery of 350KVAR APFC panel with detuned reactor	2	Nos	709083	1418166
24	Installation and commissioning of the above APFC panel in the substation	2	Nos	5000	10000
25	Supply and delivery of 25Metr high mast Tower of shaft made up of HT steel grade S355J0 as per BSEN 10025 in three sections suitable for 55m/s wind speed with raising lowering systems comprising head frame, luminaries carriage suitable to instal 12 Nos of integral/non-integral LED luminaries	3	No	275267	825801

Sr.N O	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
26	Supply of foundation bolts manufactured from special steel along with nuts, washers, anchors and templates	3	No	12616	37848
27	Supply and delivery of dome type aviation obstruction light of suitable design and reputed make	3	No	7120	21360
28	Supply and delivery of outdoor stand mounted feeder pillar with 63A TPN MCB incomer, 32A TPN outgoing switches, 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 switches	3	No	22095	66285
29	Construction of shallow foundation with M20 grade concrete for High mast considering the safe soil bearing capacity at site with materials and labour	3	No	61625	184875
30	Erection of High mast with help of suitable tools and plants, wiring of luminaries with all wiring materials like PVC insulated sheathed flexible cable of suitable copper connector cores of 2.5sqmm lugs,MCB etc	3	No	29580	88740
31	Supply of 1X400 W integral/non-integral type LED flood light luminaries with secondary optics made in pressure die cast housing and heat sink in Aluminium extrusion with IP66 protection complete in all respect including mounting of clamps	36	No	28869	1039284
32	Installation and commissioning of the aforesaid luminaries on High mast tower	36	No	350	12600

Sr.N O	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
33	Supply of 20W LED Tube Light Fittings complete with all accessories	4	No	1000	4000
34	Installation of the above tube light	4	No	150	600
35	Supply of 1200 mm sweep Energy saving Ceiling Fan	2	No	2500	5000
36	Supply of Electronic step regulator	2	No	200	400
37	Installation of the ceiling fan with regulator and all accessories	2	No	100	200
38	Supply of 300 mm sweep heavy duty exhaust fan	2	No	2000	4000
39	Installation of the exhaust fan	2	No	300	600
40	Wiring inside the substation & transformer room with 2 X 1.5 sq mm flexible copper wire with 1 X 1.5 sqmm as ECC inside PVC Rigid conduit with a 5 plug point on board	1	Lumpsum	4200	4200

Sr.N O	Description of Items	Qty.	Unit	Unit rate (in Rs)	Total Value (in Rs)
41	Earthing with 65 mm. Dia GI Pipe (TATA - Medium) x 3.0 Mtrs. Long and 1 no. 50 mm. X 6 mm. Galvanized (Hot Dip) steel strip (4 Mtrs. Long), 20 mm dia x 125 mm long galvanized bolt, double nuts, double washers including finishing both ends by making holes etc. and S & F 65 mm dia GI Pipe (ISI - Medium) protection (3 Mts. Long) to be filled with bitumen under the ground level 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).Extra for treatment of soil by using salt & charcoal or coke for plate electrode	104	no	3590	373360
42	Supplying & fixing earth busbar of galvanized (Hot Dip) MS flat 65 mm x 8 mm on wall having clearance of 6 mm from wall including providing drilled holes on the busbar complete with GI bolts, nuts, washers, spacing insulators etc. as required	2	metr	316	632
43	Connecting the LT panel to earth busbar incl. ,connecting the HT VCB panel to earth pit , transformersS & F50 mm x 6 mm Galvanized (Hot Dip) MS flat on wall/floor with GI saddle as required and connection to equipments with incldrilling holes, bolts, nuts,washers etc. Al	600	Metr	100	60000
44	Connecting the other equipment to earth pit and interconnection of earth pit with & F 25 mm x 6 mm galvanised (Hot Dip) MS flat on wall/floorwith GI saddles as required and connection to equipments incl. drilling holes, with bolts, nuts, washers etc.	1500	Metr	90	135000

45	Extra for connecting the neutral of Transformer/Earth busbar to earth electrode including S&F 50 mm x 6 mm Galvanized (Hot Dip) Steel strip under the ground level /on wall/floor with GI saddles & insulating the same by one layer of PVC strip over one layer of ampere tape.	150	metr	150	22500
	Grand Total				19794959

(In Words: One Crore Ninety Seven Lakh Ninety Four Thousand Nine Hundred and Fifty Nine 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:

Profile of Tenderer / FORM –D

This is to confirm that we agree to abide by all the terms and conditions of this NIT No. SMP/ KDS/ Mech/SE-II/ADV/561 dated 08.09.2020, 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,
SMP,
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. SMP/KDS/Mech/SE-II/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 SMP (hereinafter referred to as SMP) 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 SMP in the matter of examination, evaluation and selection of Successful Tenderer and shall refrain from challenging or questioning any decision taken by SMP in this regard. We further acknowledge the right of SMP 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 SMP 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 SMP 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.....

SMP

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 SMP, 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 SMP as per the clause no ----- of
Tender no-----issued by SMP 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, SMP(A statutory
body under MPT Act, 1963)

2. WHEREAS , the said SMP 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, SMP against all damages and accident to the Labourer Tenderer/contractor.
3. NOW THIS BOND OF INDEMNITY WITNESSTH THAT the Tenderer/contractor named herein above shall indemnify the SMP AGAINST ALL DAMAGES AND ACCIDENT OCCURRING TO THE Labourers of the Tenderer/contractor as demanded by the SMP and which shall be legal and /or claimed by the SMP 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 SMP 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,
SMP,
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.....

Syamaprasad Mookerjee Port, Kolkata



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 work- 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 SMP or in the form of an "SMP" 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 SMP 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 t6he 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 from 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

SMP

FORM G.C.3

(‘No Claim’ Certificate From Contractor)

The Engineer

SMP

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 SMP 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 SMP 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 "SMP", 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 forebear or enforce any of terms and conditions relating to the

said contract and We, Branch, Kolkata/Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the contractor or for any fore-bearance, act or commission on the part of the 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.
