NEW MANGALORE PORT AUTHORITY

(Ministry of Ports, Shipping & Waterways, Govt. of India)

यांत्रिक अभियंता विभाग **Mechanical Engineering Department** **इलेक्ट्रिकल इंजिनियरिंग डिविजन** **Electrical Engineering Division** पणंबुर मंगलूरु, Panambur, Mangaluru-575010	**Contact Details:** **Website**: http://www.newmangaloreport.gov.in **E-mail**: diggavi.b@nmpt.gov.in ele-section@nmpt.gov.in Tel: 0824-2887746/39

TENDER No: 13/KK Gate/EE(E)II/2024 **Dated: 22/02/2024**

TENDER DOCUMENT

FOR

PROVIDING ELECTRIFICATION TO KK GATE AT WHARF

2024

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PART - I

SPECIAL INSTRUCTIONS TO THE BIDDERS FOR THE E-SUBMISSION OF THE BIDS ONLINE THROUGH E-PROCUREMENT PORTAL

N.I.T. No. 13/KK Gate/EE(E)II/2024 dtd. 22.02.2024

Name of Work: Providing electrification to KK Gate at Wharf.

1. बोलीदाता को होम पेज में उपलब्ध क्लिक हियर टू एनरोल का उपयोग करके पोर्टल में ऑनलाइन नामांकन करना चाहिए। फिर पोर्टल पर लॉग इन करने के बाद ई-टोकन के साथ डिजिटल सिग्नेचर एनरोलमेंट करना होगा । Bidder should do Online Enrolment in the Portal using the option Click Here to Enroll available in the Home Page. Then the Digital Signature enrollment has to be done with the e-token, after logging into the portal.
2. तत्पश्चात बोलीधारक नामांकन के दौरान चुने गए उपयोगकर्ता आईडी / पासवर्ड पोर्टल में लॉग इन कर पाएंगे । Bidder then logs into the portal giving user id / password chosen during enrollment.
3. दूसरों द्वारा दुरुपयोग न करते हुए पंजीकृत ई-टोकन का उपयोग बोलीदाता द्वारा ही किया जाना चाहिए। The e-token that is registered should be used by the Bidder and should not be misused by others.
4. किसी खाते में मैप किए जाने पर DSC को किसी अन्य खाते में दोबारा नहीं भेजा जा सकता है। यह केवल निष्क्रिय हो सकता है। DSC once mapped to an account cannot be remapped to any other account. It can only be inactivated.
5. बोलीदाता अग्रिम रूप से अद्यतन कर सकते हैं, दस्तावेज़ जैसे प्रमाणपत्र, खरीद आदेश विवरण आदि, मेरे दस्तावेज़ विकल्प के तहत और इन्हें निविदा आवश्यकताओं के अनुसार चुना जा सकता है और फिर बोली जमा करने के दौरान बोली दस्तावेजों के साथ संलग्न किया जा सकता है। यह बोली दस्तावेजों के कम अपलोड को सुनिश्चित करेगा। The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under My Documents option and these can be selected as per tender requirements and then attach them along with bid documents during bid submission. This will ensure easier upload of bid documents.
6. निविदा कार्यक्रम डाउनलोड करने / प्राप्त करने के बाद, बोलीदाता को सावधानीपूर्वक उनके माध्यम से जाना चाहिए और फिर निविदा दस्तावेज के अनुसार दस्तावेज जमा करना चाहिए; अन्यथा, बोली अस्वीकार कर दी जाएगी After downloading / getting the tender schedules, the Bidder should go through them carefully and then submit documents as stated in the tender document; otherwise, the bid will be rejected.
7. बीओक्यू टेम्पलेट को बोलीदाता द्वारा संशोधित / प्रतिस्थापित नहीं किया जाना चाहिए और संबंधित कॉलम भरने के बाद उसे अपलोड किया जाना चाहिए, अन्यथा बोलीदाता उस निविदा के लिए अस्वीकार किए जाने के लिए उत्तरदायी है। बोलीदाताओं को केवल बिडर नाम और वैल्यू दर्ज करने की अनुमति है। The BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bid is liable to be rejected. Bidders are allowed to enter the Bidder Name and Values only

8. यदि कोई स्पष्टीकरण हैं, तो यह ई-प्रोक्योरमेंट पोर्टल के माध्यम से या निविदा दस्तावेज में दिए गए संपर्क विवरण के माध्यम से ऑनलाइन प्राप्त किया जा सकता है। बोलीदाता को पोर्टल पर ऑनलाइन या ***http://eprocure.gov.in/eprocure/app*** or ***www.newmangalore-port.com*** पर बोली प्रस्तुत करने से पहले प्रकाशित किए गए कोरिगेंडम को ध्यान में रखना चाहिए, बोलीदाता को अग्रिम में बोली दस्तावेज तैयार करने चाहिए। निविदा अनुसूची में दर्शाए अनुसार प्रस्तुत किया जाना चाहिए और वे पीडीएफ प्रारूपों में होने चाहिए। If there are queries connected with this tender, have to be clarified online through the e-Procurement Portal, or through the contact details given in the tender document. Bidder should take into account the corrigendum published before submitting the bids online on the portal or on ***http://eprocure.gov.in/eprocure/app*** or ***www.newmangalore-port.com***. All documents to be submitted, as indicated in the tender schedule and they should be in PDF formats.

9. निविदाकर्ता को निविदा में निर्दिष्ट अनुसार बोली सुरक्षा घोषणा और निविदा शुल्क की व्यवस्था करनी होगी । निविदा के लिए निविदा प्रस्तुत करने की तिथि और समय के भीतर मूल को व्यक्ति को निविदा आमंत्रण प्राधिकरण में पोस्ट / कुरियर / दिया करना होगा ।
Bidder should arrange for the EMD and tender fee as specified in the tender. The original should be posted/couriered/given in person to the Tender Inviting Authority, within the bid submission date and time for the tender.

10. बोली लगाने वाले को नियमों और शर्तों को पढ़ना चाहिए और बोलियों को जमा करने के लिए आगे बढ़ने के लिए उसी को स्वीकार करना चाहिए |
The Bidder should read the terms and conditions of the tender and accept the same before proceeding with submission to tender.

11. बोली प्रस्तुत करने की प्रक्रिया के दौरान किसी भी देरी या समस्या से बचने के लिए बोली लगाने वाले को निर्धारित समय से पहले निविदा दस्तावेजो को ऑनलाइन जमा करना चाहिए ।
The Bidder has to submit the tender document(s) online well in advance before the prescribed time to avoid any delay or problem during the bid submission process.

12. सर्वर के अंत में अपलोड की गई फ़ाइल के आकार की कोई सीमा नहीं है। हालांकि, अपलोड क्लाइंट सिस्टम पर उपलब्ध मेमोरी के साथ-साथ उस समय क्लाइंट साइड पर उपलब्ध नेटवर्क बैंडविड्थ पर तय किया जाता है। फ़ाइल का आकार कम करने के लिए, बोलीदाताओं को 75-100 DPI में दस्तावेज़ों को स्कैन करने का सुझाव दिया जाता है ताकि स्पष्टता बनी रहे और फ़ाइल का आकार कम हो जाए। यह बहुत कम बैंडविड्थ की गति पर भी त्वरित अपलोड करने में मदद करेगा |
There is no limit on the size of the file that can be uploaded at the server end. However, the upload is dependent on the Memory available at the Client System as well as the Network bandwidth available at the client side at that point of time. In order to reduce the file size, bidders are suggested to scan the documents in 75-100 DPI so that the clarity is maintained and file size is optimum. This will help in quick uploading even at very low bandwidth speeds.

13. यह ध्यान रखना महत्वपूर्ण है कि, बोली लगाने वाले को फ्रीज बोली बटन पर क्लिक करना होगा, यह सुनिश्चित करने के लिए कि वह बोली प्रस्तुत करने की प्रक्रिया पूरी करता है। बोलियां, जो अवस्द्ध हुए नहीं हैं, को अपूर्ण / अमान्य बोलियों के रूप में मानकर तथा मूल्यांकन उद्देश्यों के लिए नहीं माना जायेगा It is important to note that, the bidder has to click on the Freeze Bid Button, to ensure that, Bid Submission Process is completed. Bids, which are not frozen, are considered as Incomplete/Invalid bids and are not considered for evaluation purposes.

14. स्थानीय मुद्दों के कारण बोलीदाताओं द्वारा ऑनलाइन बोली लगाने के दौरान किसी भी प्रकार की देरी या कठिनाइयों का सामना करने के लिए निविदा आमंत्रण प्राधिकरण (TIA) को जिम्मेदार नहीं ठहराया जाएगा। The Tender Inviting Authority (TIA) will not be held responsible for any delay or the difficulties faced during submission of bids online by the bidders due to local issues.

15. बोलीदाता इस पोर्टल के माध्यम से ही बोली दस्तावेजों को ऑनलाइन मोड में जमा कर सकता है। इस प्रणाली के माध्यम से ऑफ़लाइन दस्तावेजों को संभाला नहीं जाएगा। तकनीकी बोली की केवल हार्ड कॉपी ईई (एम) III, एनएमपीटी को नियत तारीख से पहले पहुंचनी चाहिए | बोलीदाता यह सुनिश्चित करेगा कि न्यूनतम योग्यता से संबंधित सभी दस्तावेजों को तकनीकी बोली के साथ अनिवार्य रूप से अपलोड किया जाएगा, जिसमें असफल होने पर बोली को सरसरी तौर पर अस्वीकार कर दिया जाएगा । इस संबंध में कोई स्पष्टीकरण नहीं मांगा जाएगा The bidder may submit the bid documents in online mode only, through this portal. Offline documents will not accepted. The bidder shall ensure that all the documents pertaining to minimum qualification shall be compulsorily uploaded along with the technical Bid failing which the bid shall be rejected summarily. No clarifications shall be sought with respect to bid rejection.

16. बोली फ्रीज करने के समय, ई-प्रोक्योरमेंट सिस्टम सभी बोली दस्तावेजों को अपलोड करने के बाद एक सफल बोली अपडेटिंग संदेश देगा और फिर बोली सारांश को बोली नंबर, तिथि और जमा करने के समय के साथ दिखाया जाएगा। अन्य सभी प्रासंगिक विवरणों के साथ बोली लगाएं। बोलीकर्ताओं द्वारा प्रस्तुत दस्तावेजों को बोलीदाता के ई-टोकन का उपयोग करके डिजिटल रूप से हस्ताक्षरित किया जाएगा और फिर प्रस्तुत किया जाएगा। At the time of freezing the bid, the e-Procurement system will give a successful bid updating message after uploading all the bid documents submitted and then a bid summary will be shown with the bid no., date & time of submission of the bid along with all other relevant details. The documents submitted by the bidder should then be digitally signed using the e-token of the bidder and then submitted.

17. बोली प्रस्तुत करने के बाद, बोली सारांश को प्रिंट करना होगा और बोली प्रस्तुत करने के टोकन के रूप में एक एक्नॉलेजमेंट के रूप में रखना होगा। बोली सारांश निविदा निविदा के लिए बोली प्रस्तुत करने के प्रमाण के रूप में कार्य करेगा और बोली उद्घाटन कार्यक्रम में भाग लेने के लिए प्रवेश बिंदु के रूप में भी कार्य करेगा। After the bid submission, the bid summary has to be printed and kept as proof of submission of the bid. Entry to bid opening event will be restricted to bidders having proof of bid submission of the subject tender.

18. सिस्टम से सफल बोली प्रस्तुत करने का मतलब है,कि बोलीदाता द्वारा अपलोड की गई बोलियां प्राप्त होकर सिस्टम में संग्रहीत कर ली गयी हैं; सिस्टम इसकी शुद्धता के लिए प्रमाणित नहीं करता है। Successful bid submission from the system means, the bids as uploaded by the bidder is received and stored in the system. System does not certify for correctness of the bid.

19. बोली लगाने वाले को यह देखना चाहिए कि प्रस्तुत किए गए बोली दस्तावेज वायरस से मुक्त हैं और यदि निविदा खोलने के दौरान वायरस के कारण दस्तावेज नहीं खुल पा रहे हैं तो बोली अस्वीकार कर दी जाएगी । इसके लिए आर्गेनाइजेशन जिम्मेदार नहीं होगी। The bidder should ensure that the bid documents submitted are free from virus. If NMPA is unable to open documents due to virus or any other reason during tender opening, the bid is liable to be rejected . NMPA will not be responsible for rejection of such bids.

20. टेंडर पोर्टल के शीर्ष पर सर्वर घड़ी से प्रदर्शित होने वाला समय, ई-प्रोक्योरमेंट पोर्टल में बोली प्रस्तुत करने, बोली खोलने आदि के अनुरोध के सभी कार्यों के लिए मान्य होगा। इस पोर्टल में अनुवर्ती समय भारतीय मानक समय (IST) के अनुसार है जो GMT + 5: 30 है। बोली लगाने के दौरान बोलीदाताओं को इस समय का पालन करना होगा| The time that is displayed from the server clock at the top of the tender Portal, will be valid for all actions of requesting bid submission, bid opening etc., in the e-Procurement portal. The Time followed in this portal is as per Indian Standard Time (IST) which is GMT+5:30. The bidders should adhere to this time during bid submission.

21. बोलीकर्ताओं से अनुरोध किया जाता है कि वे बोली प्रस्तुत करने की अंतिम तिथि और समय (सर्वर सिस्टम क्लॉक के अनुसार) से पहले निविदा प्रक्रिया के लिए ऑनलाइन ई-प्रोक्योरमेंट सिस्टम के माध्यम से निविदाएं प्रस्तुत करें। The bidders are requested to submit the bids through online e-Procurement system to the Tender Inviting Authority (TIA) well before the bid submission end date and time (as per Server System Clock)
22. भाग I- तकनीकी बीआईडी के साथ निविदा फार्म शुल्क और ईएमडी जमा किया जाएगा। फीस, ईएमडी के बिना प्रस्तुत बीआईडी, जैसा कि ऊपर उल्लेख किया गया है, मूल्यांकन के लिए विचार नहीं किया जाएगा और सरसरी तौर पर खारिज कर दिया जाएगा।
Tender form Fee and EMD declaration shall be submitted with the Part I-Technical BID. BID submitted without fees and EMD, as mentioned above will not beconsidered for evaluation and shall be rejected summarily.
23. बोली लगाने वाला / निविदाकार / ठेकेदार कर विभागों के साथ लागू रिटर्न समय में दाखिल करेगा और दस्तावेजी प्रमाण के रूप में प्रस्तुत करना होगा ।
The Bidder/Bidder/Contractor shall file the applicable returns with Tax departments in time and submit the same as documentary proof.
24. पोर्ट को क्रेडिट करने के लिए जीएसटी लागू टैक्स चालान में एक अलग लाइन आइटम के रूप में दिखाया जाएगा। The GST applicable shall be shown as a separate line items in the Tax invoices to avail in put credit to Port.
25. ईएमडी / एलडी / एसडी को जब्त करने की स्थिति में, जीएसटी लागू है; तथा जुर्माना लगाने के दौरान जीएसटी लागू किया जायेगा । In the event of forfeiting the LD/SD, GST is applicable and while imposing penalty, applicable GST shall be collected.

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Part-II

SCHEDULE OF TENDER (SoT)

NIT No: 13/KK Gate/EE(E)II/2024 **Date: 22/02/2024**

NOTICE INVITING TENDER
(Through CPP Portal)

E-Tenders in two bid system are invited by New Mangalore Port Authority through Electronic tendering in CPP Portal i.e. **http://eprocure.gov.in/eprocure/app**

TENDER NO.	13/KKGate/EE(E)II/2024 dtd. 22.02.2024
TENDER ID.	2024_NMPT_796875
Name of the Work	Providing electrification to KK Gate at Wharf.
Mode of tender	Through CPP portal **https://eprocure.gov.in/cppp/**
Estimated cost	**Rs.31,22,000/-** (Rupees thirty one lakhs twenty two thousand only) excluding GST.
Tender Fees	**Rs.560/-** (Rupees Five Hundred Sixty only) inclusive of 12% GST - Non-refundable **OR** exemption certificate as per clause No 2.2.1(n) of ITB
Earnest Money Deposit	**Rs.73,700/-** (Rupees Seventy three thousand seven hundred only) inclusive of 18% GST **'OR'** exemption certificate as per clause No 2.2.1(n) of ITB.
Date of Tender Document available to parties to download	22/03/2024 at 15:00 Hrs.
Date of Starting of e-Tender for submission Bid on line at ***https://eprocure.gov.in/cppp/***	22/03/2024 at 18:00 Hrs.
Date of closing of e-Tender for submission of Bid.	14/03/2024 at 15.00 Hrs.
Date & Time of opening of Technical Bids	15/03/2024 at 15.00 Hrs.
Date & Time of opening of Price Bid	Will be communicated separately to the qualified Bidders
Contract Period	**3 Months** from the date of execution of Contract Agreement.
Validity of Tender	120 days from the date of opening of Tender (Technical Bids)

Amendments to the tender (if any) will be issued only through web site **http://www.newmangaloreport.gov.in** *and on* **CPP Portal www.eprocure.gov.in/eprocure/app**

-Sd/-
Executive Engineer (Ele)-II

2. INSTRUCTIONS TO THE BIDDERS (ITB)

2.1 SCOPE OF BID:

E-Tenders in Two Cover system (Techno-Commercial Bid and Price Bid) are invited by Executive Engineer (E)II on behalf of New Mangalore Port Authority for the work of **"Providing electrification to KK Gate at Wharf".**

2.2 TENDER SUBMISSION:

The Tender shall be uploaded as follows:

2.2.1 **Technical Bid** shall contain the following:

a) EMD in the form of Insurance Surety Bonds or Account Payee Demand Draft or Fixed Deposit Receipt or Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online is accepted.

b) Earnest Money Deposit of **Rs.73,700/-** (Rupees Seventy three thousand seven hundred only) inclusive of 18% GST - NEFT Receipt shall be uploaded along with the Technical Bid '**OR'** exemption certificate as per clause No 2.2.1(n) of ITB. Failure in submission of EMD will render the Bidders disqualified, except in the case as per clause No. 2.2.1 (n) below.

c) TENDER FEE for **Rs.560/-** (Rupees five hundred sixty only) inclusive of 12% GST - non-refundable - NEFT Receipt shall be uploaded along with the Technical Bid '**OR'** exemption certificate as per clause No 2.2.1(n) of ITB. Failure in submission of Tender fee will render the Bidders disqualified, except in the case as per clause No. 2.2.1 (n) below.

d) All the documents should be as per the MQC. Technical Bid should not contain Price Bid. "Disclosure/indication of Price in the Technical Bid shall render the tender disqualified and rejected.

e) The Tender document duly signed and sealed by the Bidder on each page along with Annexure duly filled along with amendments issued by NMPA if any.

f) Particulars of Bidder - **Annexure – 1**

g) Supporting documentary evidence of work orders and also satisfactory completion certificate issued by the client.

h) Tender Form as per **Annexure - 2**

i) Form of Declaration – **Annexure - 5**

j) Power of Attorney - **Annexure - 6**

k) Bank Details of the Bidder for E-Payment – **Annexure - 7**

l) Copies of the **Valid Electrical Contract License, GST Registration Certificate, ESI & PF Registration and PAN card** to be submitted.

m) Copies of profit and loss statements, balance sheet and Auditor's report for the last three years.

n) Micro and Small Enterprises (MSE) registered with District Industries Centre (DIC) or Khadi and Village Industries commission or Khadi & Industries Board (KVIB) or Coir Board or National Small Industries Corporation (NSIC) or

Directorate of Handicrafts and Handlooms or Udyog Aadhar memorandum or any other body specified by Ministry of MSME shall be exempted of EMD & Tender Fee on producing self-attested supporting certificates along with Technical Bid.

o) Dispute review Board – **Annexure - 8**
p) Details of ongoing contracts at NMPA – **Annexure - 9**
q) Verification of Local Content – **Annexure - 10**
r) Undertaking on Indemnification – **Annexure - 11**
s) Indemnity Bond – **Annexure - 12**
t) Bid Security Declaration – **Annexure -13**

2.2.2 **Price Bid shall be uploaded only through ONLINE:** Technical Bid and Price Bid shall be uploaded through online only. Price bid should be quoted in the BOQ template available in the CPP portal only. The BOQ template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for that tender. Bidders are allowed to enter the Bidder Name and Values only. **Any condition imposed in the price bid shall make the tender liable for out-right rejection**. The contract shall be for the whole works as described in the scope of work based on the priced Bill of Quantities submitted through CPP portal by the Bidder. The Bidder shall fill in rates and prices for all items of the works described in the Bill of Quantities through CPP portal. Items for which no rate or price is entered by the Bidder will not be paid for by the Port when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

2.3 ELIGIBLE BIDDER:-

2.3.1 The invitation for bids is open only to all eligible Bidders meeting the eligibility criteria as defined in clause No.2.4

2.3.2 Tender Form information as per **Annexure - 2**

2.3.3 Government owned Enterprises may only participate if they are legally and financially autonomous operate under commercial law and are not a dependent agency of the employer subject to fulfillment of minimum qualifying criteria.

2.3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the employer in accordance with clause No.2.21

** **

2.4 MINIMUM QUALIFICATION CRITERIA OF THE BIDDERS: (MQC)

2.4.1 FINANCIAL CRITERIA

The Bidder should have an average Annual financial turnover of **Rs.9,36,600/-** for the last 3 financial years 2020-21, 2021-22 & 2022-23

Note:- 1. Documentary evidence duly self-attested viz – **Auditor's Certificates (with UDIN No)**/balance sheet / latest income tax return filed/profit and loss statement for the three years shall be uploaded along with the bid.

2. If the bidder is already having ongoing contracts in NMPA, then his combined work order value of all the ongoing contracts shall be deducted from his Financial Capacity. The Financial Capacity of the bidder shall be assessed from the Average Annual Financial Turnover of the Bidder for the last three years ending **March-2023**. The Bidder shall be technically qualified, only if his balance Financial Capacity after reduction, is equal to or more than the estimate put to tender.

{Example: If the Average Annual Turnover of the bidder is Rs.3,00,000/- (Rupees Three lakhs only), then the Financial Capacity of the Bidder is considered to be Rs.10,00,000/-(Rupees Ten lakhs only). If the contractor declares total ongoing works at NMPA of value Rs.4,00,000/- (Rupees Four lakhs only) in **Annexure-9**, then the contractor can Bid only for the remaining Financial Capacity i.e., Rs.6,00,000/-(Rupees Six lakhs only)}

2.4.2 TECHNICAL CRITERIA

The Bidder shall have successfully completed **Similar Works** during last 7 (Seven) years ending last day of month previous to the one in which tenders are invited should be either of the following:

One similar completed work costing not less than **Rs.24,97,600/-** (Excluding GST)

OR

Two similar completed works each costing not less than **Rs.15,61,000**/- (Excluding GST)

OR

Three similar completed works each costing not less than **Rs.12,48,800/-** (Excluding GST)

"Similar Work" means "**HT/LT Electrical works**".

i) In order to meet the Technical criteria as per clause No.2.4.2 above the bidder shall submit the following documents along with the technical bid:-

a. Self-attested photo copies of LOA/Work Order/Agreements showing the awarded contract value for "similar works" and satisfactory Completion Certificates issued by the Client, indicating the date of Completion and completed Contract Value. If the bidders do not enclose LOA/work order/Agreements/completion certificates along with the Technical bid, as desired for any of the works mentioned, that particular work shall not be considered for further evaluation. The Bidder shall also enclose detailed BOQ with rates and scope of work supporting the LOA/work order/Agreements/ completion certificates submitted. TDS certificate clearly showing the tax deduction from client for related work orders/agreements shall be attached for verification.

b. The Bidder shall have **Valid Electrical Contract License, ESI, PF and GST Registration Certificate** - **all in the same name (Bidder's name)** and same should be uploaded along with the Technical Bid.

2.4.3 Even though the Bidders meet the qualifying criteria as per clause 2.4, they are subject to be disqualified and debarred for a period of three (3) years from participating for tenders at New Mangalore Port Authority duly informing the MSME authorities if applicable, if they have:

i. made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
ii. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion or financial failures etc.

2.5 LAST DATE FOR SUBMISSION OF TENDER: NMPA may at its sole discretion reserves the right to extend the date for receipt of tender.

2.5.1 **RATES TO BE INCLUDED FOR ALL OPERATIONAL EXPENSES:**

i. The contractor may visit the Port Authority area before quoting. The Bidder should quote the rate by taking into consideration all expenses.

ii. The GST as applicable will be paid extra by the Port. The GST Registration Number of the Bidder shall be furnished invariably in the tender as well as the Bills/Invoices. Copy of GST registration certificate shall be enclosed along with the tender.

iii. GST will be paid on production of documentary proof of registration with the Central Excise Department only.

2.6 AUTHORITY IN SIGNING TENDER DOCUMENTS:

i. The tender, if submitted on behalf of a Partnership Firm should be signed either by all the partners or some of the partners or other person/s holding a valid "Power of Attorney" from other partners or all the partners constituting the firm.

ii. In case of a Company, the tender should be signed by a person holding a valid Power of Attorney executed in his favour in accordance with the constitution of the Company.

2.7 ONE BID PER BIDDER

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

2.7.2 A Bidder shall not have a conflict of interest. All Bidders found to have conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this Tendering process, if they are or

a. have been associated in the past, with a firm or any of its affiliates which have been engaged by the Employer to provide consulting services for the preparation of the design, specifications, and other documents to be used for the services to be rendered under these Tendering Documents; or
b. Submit more than one Tender in this Tendering process.

2.7.3 A Bidder that is under a declaration of ineligibility by the Employer in accordance with ITB Clause 2.21, at the date of contract award, shall be disqualified.

2.7.4 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

2.8 BIDDER TO INFORM HIMSELF FULLY

2.8.1 The Bidder is expected to examine carefully the contents of all the documents provided like instructions to the Bidders, Tender Conditions, Scope of work etc. Failure to comply with the requirements of the tender will be at the Bidders own risk. The Bidder to ensure to make a complete and careful examination of requirements and other information set out in the tender document. The Bidder shall be deemed to have, visited the site and surroundings and have obtained all necessary information in all the matters whatsoever that might influence while carrying out the Works as per the conditions of the tender and to satisfy himself to sufficiency of his tender etc.

2.8.2 The Bidder shall examine carefully the conditions of contract in the Tender documents supplied herewith. Though every effort is made herein to give basic data as exhaustively as possible, the Bidder is advised to visit the

New Mangalore Port and its approaches and get himself thoroughly acquainted with all necessary data concerning weather conditions, working conditions, sea conditions, etc. for the purposes of making a correct offer. All costs, charges and expenses that may be incurred by the Bidder in connection with such investigations for the submission of his offer shall be borne by him and the Board accepts no liability or responsibility whatsoever therefore.

2.8.3 Bidder shall bear all costs associated with the preparation and submission of his tender and NMPA will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the tendering process.

2.9 Earnest Money Deposit:

2.9.1 The tender shall be accompanied by proof of Earnest Money deposit of Rs.73,700/- (Rupees Seventy three thousand seven hundred only) inclusive of 18% GST 'OR' exemption certificate as per clause No 2.2.1(n) of ITB. EMD in the form of Insurance Surety Bonds or Account Payee Demand Draft or Fixed Deposit Receipt or Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online is accepted. The tender without EMD shall be rejected, except in the case as per clause No.2.2.1 (n).

2.9.2 In the event of Tenderer withdrawing his tender before the expiry of tender validity period of **120 days** from the date of opening, the tender shall be cancelled and EMD shall be forfeited. **Applicable GST shall be recovered on forfeiture of EMD.**

2.9.3 The Earnest Money Deposit of unsuccessful Tenderers shall be returned without interest as early as possible on award of Contract to the successful Tenderer. The Earnest Money Deposit of the successful Tenderer shall be refunded (without interest) only on receipt of **Security Deposit cum Performance Guarantee** as stipulated in the tender clause **2.20**. In the event of forfeiting of EMD/LD/SD and while imposing penalty GST shall be collected.

2.9.4 NMPA reserves the right to forfeit the Earnest Money Deposit in respect of successful Tenderer, if he fails to enter into a Contract and furnish the necessary Bank Guarantee towards performance within **21 days** from the date of issue of **Letter of Acceptance,** otherwise penalty @ 0.25% of the amount of the Performance Guarantee for each week or part thereof for the number of weeks delayed beyond the stipulated date of submission shall be levied maximum up to 2.5% of the amount of the Performance Bank Guarantee.

2.9.5 In the event of forfeiting the Performance Security, GST is applicable and

while imposing penalty & Liquidated damages GST as applicable shall be collected.

2.9.6 The bidder shall be disqualified/terminated duly forfeiting EMD (if applicable) and may be debarred for a period of three (3) years from participating for tenders at New Mangalore Port Authority duly informing the MSME authorities if applicable, if

i. The Bidder withdraws the Bid after Bid opening during the period of Bid Validity;

2.9.7 The successful Bidder fails within the specified time limit to:

i. Sign the Agreement AND / OR furnish the required Performance security.
ii. Fail to commence the work on the specified date as per Work order.
iii. If the bid is varied or modified in a manner not acceptable to the Employer during the validity or extended validity period duly agreed by the Bidder.
iv. If any information or representation submitted by Bidder is found to be false or incorrect.
v. Any effort by the Bidder to influence the Employer on bid evaluation, bid comparison or contract award decision.

2.10 TENDER VALIDITY: The tender shall remain valid for acceptance for a period of 120 days from the date of opening of Technical Bid. NMPA reserves their right to extend the period of validity for a specific time. The request and the response, thereto, shall be made in writing by post or by Fax/e-mail. A bidder may refuse the request which may be accepted by NMPA. However, in the event of the Bidder agreeing to the request; he shall not be permitted to modify his tender.

2.11 AMENDMENTS:

2.11.1 At any time, prior to the last date for submission of tenders, NMPA reserves the right to amend and modify the tender document by issuing Addendum/Corrigendum which shall be uploaded in the CPP/PORT Websites.

2.11.2 The Addendum/Corrigendum so issued shall form part of the Contract and shall be binding upon the Bidders. NMPA may at their discretion, extend the last date for submission of the tender, to enable the Bidders to have reasonable time to submit their tender after taking into consideration such amendments, which shall also be uploaded to the Websites. The Bidder shall acknowledge receipt of such Addenda/ Corrigenda and submit the same along with his Tender duly signed and

sealed in all pages.

2.12 LANGUAGE OF TENDER :

The Tender submitted by the Bidder and all correspondence and documents relating to the Tender exchanged by the Bidder and the NMPA shall be written in the *English language*. Any printed literature, other than English language, shall be accompanied by an English translation, in which case, for purpose of interpretation of the tender, the English translation shall govern.

2.13 MODIFICATION, SUBSTITUTION AND WITHDRAWAL OF PROPOSAL:

No offer shall be modified, substituted or withdrawn by the Bidder after the closing time on due date. Withdrawal of a proposal during the interval between closing time on proposed due date and expiry of the proposal validity period would result in disqualification of the bidder as per clause 2.9 of Tender Document.

2.14 TENDERED CURRENCIES:

Prices shall be quoted in Indian Rupees only and all payments will be made in Indian Rupees.

2.15 PRE_BID QUERIES

Not Applicable

2.16 TENDER OPENING AND EVALUATION:

2.16.1 **OPENING OF TECHNICAL BID:** Technical bids of the Tender, received up to closing time on stipulated date, shall be opened as per the Important Instructions of CPP.

2.16.2 **SCRUTINY AND EVALUATION OF THE TENDER**

i. Prior to the detailed evaluation of bid, the employer will determine whether each bid (a) meets the eligibility criteria defined at 2.3 & 2.4 above (b) has been properly signed by an authorized signatory holding Power of Attorney in his favor (c) accompanied by Tender fee (if applicable), EMD (if applicable) and (d) is responsive to the requirement of the bidding documents. If any of the above conditions are not satisfied, the bid shall be rejected outright.

ii. Conditional offer or alternative offers will not be considered further in the process of tender evaluation.

iii. A substantially responsive technical and Financial Bid is one which conforms to all the terms, conditions and specifications of the bidding documents, without material deviation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality or performance of the works; (b) which limits in any substantial

way, the employers right or bidders obligations under the contract or (c) whose rectification would affect unfairly the competitive position of others bidders presenting responsive bids. The Bidder who does not fulfill the tender requirements shall not be considered for further evaluation.

iv. After the tender opening, the whole process involving scrutiny, clarifications, evaluation and comparison of tenders and recommendations regarding award of Contract shall be confidential. Any efforts on part of any Bidder to influence the Port Authority in any way in the process of scrutiny, evaluation, comparison of tenders and decision concerning award of Contract may result in rejection of the Bidder's bid.

v. To assess the scrutiny, evaluation and comparison of tenders, the Port Authority may ask Bidder individually for clarifications. Clarifications shall be sought only on the documents submitted along with the bid. No new documents/work orders shall be entertained which was not part of the original submission whose acceptance would affect unfairly the competitive position of others bidders presenting responsive bids. Request for clarification and response thereto shall be in writing/email or through fax. If the Bidder fails to submit the requested documents within the time specified by the department, his bid is liable to be rejected. No change in Price or substance of the tender shall be sought, offered or permitted nor is the Bidder permitted to withdraw the tender before the expiry of the validity period of the tenders in the process of clarifications.

vi. If a Technical Bid is not substantially responsive, it will be rejected by the employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation. The Price/Financial Bid of those bidders shall not be opened.

2.16.3 **OPENING OF PRICE BID:**

i. Tenders, which are found to be in conformity with NMPA's Tender requirement, shall be considered for opening of Price Bid.

ii. The Bidders found to be qualified and responsive shall be informed about the date and time of opening of their Price Bids. On the stipulated date and time the Price Bids of such Bidders shall be opened online.

iii. The Bidders has to quote the rate for the subject work in the price Bid format – PART III excluding GST.

iv. The evaluation shall be done on the basis of **total lowest value (L1)** quoted. The GST element if any will **not be considered for comparison**.

v. Further, in order to promote the Make in India Initiative by the Government of India, Class 1 Local suppliers shall get purchase preference over Class II local suppliers as well as non-Local supplier as per the following procedure (Refer GCC Clause 3.1 definitions) :-

a. Among all qualified bids, the lowest bid will be termed as L1, if L1 is Class I Local supplier, the contract will be awarded to L1.

b. If L1 is not a Class-I Local Supplier, the lowest bidder among the Class-I local supplier, will be invited to match the L1 price subject to Class-I local Supplier's quoted price falling within the margin of Purchase preference, and the contract shall be awarded to such Class-I Local supplier subject to matching the L1 price.

c. In case such Lowest eligible Class- I local supplier fails to match the L1 price, the Class-I local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the Class I supplier within the margin of purchase preference matched the L1 price, the contract may be awarded to the L1 bidder.

Note: The Class-I local supplier/Class-II Local Supplier shall submit the self-attested copy of Annexure-11 compulsorily along with the Bid clearly indicating the percentage of local content (local staffs that the contractor shall be deploying, in case the contract is awarded to him) and provide self-certification that the services/items offered meets the local content requirement for Class I supplier/Class II local supplier, as the case may be.

vi. The Bidder, whose bid is accepted by the Port Authority, shall be duly informed in writing. Within 7 days of receipt of intimation, regarding acceptance of its bid, the Bidder shall submit draft Contract agreement in the format approved by the Port Authority as in the **ANNEXURE-3** of Tender Document, and within a week thereafter the Contract agreement shall be signed between the Port Authority and the successful Bidder.

vii. If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer or his Representative's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the implementation/construction methods and schedule proposed.

viii. Offers, deviations & other factors which are in excess of the requirement of the Tender document or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in Tender evaluation.

ix. **The price Bid with any counter conditions will be summarily rejected.**

2.17 AWARD OF CONTRACT:

Award Criteria: The employer will award the contract to the L1 Bidder whose bid has been determined to be responsive to the bidding documents and who has offered the lowest evaluated Bid Price, provided that such bidder has been determined to be (a) eligible in accordance with the provisions of Clause No.2.3 and (b) qualified in accordance with the provisions of clause No.2.4.

2.18 EMPLOYERS RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL:

Notwithstanding Clause No.2.17, the employer reserves the right to accept or reject any bid and to cancel the bidding process and reject all bids, at any time prior to the award of contract, without thereby incurring any liability to the affected bidder or bidders of the grounds for employer's action. Further, NMPA does not bind them to accept the lowest offer.

2.19 NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT

2.19.1 The bidder whose bid has been accepted will be notified of the award by the employer prior to expiration of the bid validity period. This letter (herein after and in the conditions of contract called the "letter of acceptance") will state the sum that the employer will pay the contractor in consideration of the execution completion and maintenance of the works by the contractor as prescribed by the contract (hereinafter and in the contract called the "contract price").

2.19.2 The notification of award will constitute the formation of the contract subject only to the furnishing of a performance security in accordance with the provision of clause 2.20.

2.19.3 The agreement will incorporate all correspondence between the employer and the successful bidder. The Contractor shall enter into and execute the Contract Agreement, to be prepared and completed at the cost of the Contractor, in the **Annexure-3** with such modifications as may be necessary within **14 Days** from the Date of issue of LOA. The Agreement to be executed on a non-judicial Stamp paper of value **Rs.100/- issued from Mangaluru jurisdiction**. **The Bidder shall submit 10 sets of Agreement copies at his own cost.**

2.20 PERFORMANCE SECURITY:

Performance security for a sum equivalent of **10%** of the total contract value including GST shall be submitted in the form of Insurance Surety Bonds or Account Payee Demand Draft or Fixed Deposit Receipt from a Commercial Bank or Bank Guarantee from a Commercial Bank or online payment are accepted in the approved format **within 21 days** from the date of issue of LOA. The Performance security shall be kept valid for the total contract period and Guarantee for one year plus Three Months claim Period. Thereafter, the total of 10% of Performance Security shall be released to the Contractor after successful completion of the Guarantee Period, deducting any dues payable

to the Port. Failure to comply with the above shall lead to termination of contract as per clause No. 2.9 of ITB.

Note:- i) The Penalty for the delay in submission of the Performance Guarantee within the stipulate date above shall be at the rate of 0.25% of the amount of performance guarantee for each week or part of the week for the number of weeks delayed beyond the stipulated date of submission.

ii) The performance security shall be complied as per the orders/amendments issued by the Authorities

2.21 CORRUPT OR FRAUDULENT PRACTICES

The Employer requires that Bidders/Suppliers/Contractors under this contract, observe the highest standard of ethics during the procurement and execution of this contract. In pursuance of this policy, the Employer

i. defines, for the purpose of these provisions, the terms set forth below as follows:

a. "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

b. “fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

ii. Will reject a proposal for award of work if he determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

iii. Will declare a Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract/contracts if he at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for, or in executing, the contract.

2.22 THE LAW, WHICH APPLIES TO THE CONTRACT:

The Contract shall be governed by the Indian Contract Act and under the Indian Law. The Arbitration for settlement of disputes shall be held in Mangalore, Karnataka, India.

Apart from the above, conciliation through conciliation committees/ councils comprising of independent subject experts may also be explored to settle the disputes.

3 GENERAL CONDITIONS OF CONTRACT

A: GENERAL:

3.1 DEFINITIONS:

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

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

ii. **Compensation Events** are those defined in Clause No.3.30.

iii. The **Completion Date** is the date of completion of the Works as certified by the Engineer or his nominee in accordance with Clause No.3.36.

iv. The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause No. 3.2(iii).

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

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

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

viii. The **Contract Price** is the price stated in the letter of acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

ix. **Days** are calendar days, **months** are calendar months.

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

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

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

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

xiv. The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer or his nominee by issuing an extension of time.

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

xvi. The **Engineer or his nominee** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer or his nominee) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time and valuing the Compensation Events.

xvii. **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer or his nominee.

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

xix. A **Variation** is an instruction given by the Engineer or his nominee which varies the Works.

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

xxi. **"Local Content"** means the amount of value added in India which shall unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

xxii. **"Class – I local supplier"** means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%.

xxiii **"Class – II Local Supplier" means** a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%.

xxiv **"Non Local supplier"** means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%.

xxv **"Margin of purchase preference"** means the maximum extent to which the price quoted by a Class – I local supplier may be above the L1 for the purpose of purchase preference**,** which shall be 20%**.**

xxvi **"L1"** means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

xxvii **"Nodal Ministry"** means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

xxviii **"Procurement entity"** means a Ministry of Department or attached or subordinate office of or autonomous body controlled by, the Government of India and includes Government companies as defined in the companies act.

3.2 INTERPRETATION:

i. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer or his nominee will provide instructions clarifying queries about the Conditions of Contract.

ii. If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

iii. The documents forming the Contract shall be interpreted in the following order of priority:

a. Agreement
b. Letter of Intent and work order.
c. Contractors Bid
d. Contract Data
e. Conditions of Contract including Special Conditions of Contract.
f. Specifications
g. Drawings, if any
h. Bill of quantities and
i. any other documents listed in the Contract Data as forming part of the Contract.

3.3 LANGUAGE AND LAW:

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

3.4 ENGINEER OR HIS NOMINEES DECISION:

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

3.5 DELEGATION: The Engineer or his nominee may delegate any of the duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

3.6 COMMUNICATIONS: Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act 1872).

3.7 PERSONNEL: The Contractor shall employ the personnel as Onsite Support Resource as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer or his nominee. The Engineer or his nominee will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the schedule.

If the Engineer or his nominee asks the contractor to remove a person who is a member of the contractor's staff of his work force stating the reasons, the contractor shall ensure that the person leaves the site within seven days and has no further connections with the work in the contract.

3.8 EMPLOYERS AND CONTRACTORS RISKS:

The Employer carries the risks which this Contract states are Employer's risks and the contractor carries the risks which this Contract states are contractor's risks.

3.9 EMPLOYERS RISKS:

The Employers risks are;

a. in so far as they directly affect the execution of the Works in the country where the Permanent Works are to be executed:

1. war and hostilities (whether war be declared or not), invasion, act of foreign enemies;
2. rebellion, revolution, insurrection, or military or usurped power, or civil war;
3. ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste, from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
4. pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds; and
5. riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works;
6. Unforeseen Rains (Rains if any; during the period other than the Monsoon period as stated in the Tender), floods, tornadoes, earthquakes and landslides.

b. loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;

c. loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and

d. any operation of the forces of nature (in so far as it occurs on the Site) which an experienced contractor:

1. could not have reasonably foreseen, or

2. could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:

A. prevent loss or damage to physical property from occurring by taking appropriate measures, or

B. Insure against.

3.10 CONTRACTORS RISKS:

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

3.11 INSURANCE:

The insurance shall be as follows;

1. All the materials shall stand insured in the name of New Mangalore Port Authority from the time of arrival at site till commencement of installation against fire, pilferage and damage for the value of 90% of each item. The charges for the insurance shall be borne by the Contractor.

2. During erection and till the work is completed and satisfactory taken over by the N.M.P.A after testing the materials shall stand covered by suitable erection Insurance also for the value of 110% of the item. The charges for the insurance shall be borne by the Contractor.

3. All the men/women to be deployed by the Contractor for performing the contract shall be insured against injury/accidents/death by the Contractor at his own cost.

4. The Contractor shall indemnify New Mangalore Port Authority against all losses and claims In case of death or injury caused to any person by him during the execution of the work.

5. The Contractor shall effect and maintain the following policies at no cost to NMPA, during Contract period with an Indian Insurance Company approved by Insurance Regulatory Development Authority of India (IRDA).

i. **Commercial General Liability (CGL):**

The Contractor is required to take a Commercial General Liability (CGL) Insurance policy during execution of contract work to the extent of 50% of the contract value to cover Third party Liability with cross liability extension. The following third party liabilities shall be covered;

a. Third party bodily injuries / death / disablement (persons not belonging to Employer and/or Contractors.

b. Third party Property damage which includes damages to others materials/pipeline/argo/inventories/equipment/other facilities belonging to third party and inclusive of properties during construction/erection/ Government properties.

c. The value of third party legal liability for compensation for loss of human life or partial / total disablement as well as for damage to others equipment/material/property shall be of required statutory limit where applicable or as awarded by Court of Law.

The policy will be on claim made basis with retroactive date from the date of commencement of the contract and shall be valid throughout the tenure of the contract period (including defect liability period) and be also valid during the extended period if any.

The policy will be having claim series clause and extended notification clause with cross liability extension.

ii. **Employer Liability Insurance:**

The Contractor shall indemnify and keep indemnified the Employer against all damages or compensation payable at Law in respect of or in consequence of any accident or injury to any workman or other person in the employment of the Contractor or Sub-Contractor against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto and the Employer shall be at liberty to deduct or adjust from the Contactor's bills an amount that Employer may be called upon to pay towards claims, demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation to any accident or injury referred to above without any reference to the Contractor.

The Contractor shall be registered under ESI as per the relevant statute and act and shall continue such insurance till completion of the Contract covering all the employees / workers / casual labour/contract labour/outsourced persons under his supervision deputed for the said contract work. The Contractor shall also submit such policy of insurance as and when required by the Employer / Employers representatives.

iii. **Automobile Liability Insurance:** Covering use of vehicles / mobile equipments used by Contractor or sub-contractor(s) (whether or not owned by them) in connection with the execution of the contract.

iv. **Claim Lodgement:** In all cases the Contractor shall lodge the claim with the underwriters and also settle the claims. All claims shall be settled in India. However, the Contractor shall proceed with the repairs and/or replacement of the damaged structures / facilities without waiting for

the settlement of the claims. In case seizure of materials by concerned authorities the Contractor shall arrange prompt release against bond, securities or cash as required.

The Contractor will indemnify to the fullest extent permitted by law and keep the Employer, its officers, employees and other related parties hold harmless from all claims for bodily injury and property damage that may arise from the performance of the work.

3.12 THE WORKS TO BE COMPLETED BY THE INTENDED COMPLETION PERIOD:

The Contractor may commence execution of the works on the Start Date and shall carry out the works in accordance with the Bar Chart submitted by the contractor as updated with the approval of the Engineer or his nominee, and complete them by the Intended Completion Date.

3.13 SAFETY: The Contractor shall be responsible for the safety of all activities on the Site.

3.14 POSSESSION OF THE SITE:

The Employer shall give possession of all parts of the Site to the Contractor, free from encumbrances. If possession of a part is not given by the start date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event.

3.15 ACCESS TO THE SITE:

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

3.16 INSTRUCTIONS:

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

3.17 DISPUTES:

If the Contractor believes that a decision taken by the Engineer or his nominee was either outside the authority given to the Engineer or his nominee by the Contract or that the decision was wrongly taken, the decision shall be referred to the Dispute Review Board (DRB) within 28 days of the notification of the Engineer or his nominee's decision.

3.17.1 **SETTLEMENT OF DISPUTES:**

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or after termination of the Contract, including any disagreement by either party with any action,

inaction, opinion, instruction, determination, certificate or valuation of the Engineer or his nominee, the matter in dispute shall, in the first place be referred to the Disputes Review Board [DRB].

Unless the Contract has already been repudiated or terminated or frustrated the Contractor shall in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every decision of the Engineer or his nominee unless and until the same shall be revised, as hereinafter provided, in a Dispute Review Board Recommendation / Arbitral Award.

3.17.2 **Arbitration:** Any dispute in respect of in respect of contracts where party is dissatisfied by the Dispute Review Board's (DRB) decision shall be decided by arbitration as set forth below:

i) A dispute with contractor shall be finally settled by arbitration in accordance with the Indian Arbitration and Conciliation Act, 1996, or any statutory amendment thereof. The arbitral tribunal shall consist of 3 arbitrators, one each to be appointed by the Employer and the contractor, and the third to be appointed by the mutual consent of both the arbitrators, failing which by making a reference to CIDC-SIAC Arbitration Center from their panel.

ii) Neither party shall be limited in the proceedings before such arbitrators to the evidence or arguments already put before the Engineer or his nominee or the Board, as the case may be, for the purpose of obtaining said recommendations/decision. No such recommendations/decision shall disqualify the Engineer or his nominee or any of the members of the Board, as the case may be, from being called as a witness and giving evidence before the arbitrators or any matter whatsoever relevant to the dispute.

iii) The reference to arbitration shall proceed notwithstanding that the works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, the Engineer or his nominee and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the works. Neither party shall be entitled to suspend the works to which the dispute relates, and payment to the Contractor shall be continued to be made as provided by the contract.

iv) If one of the parties fails to appoint its arbitrators in pursuance of sub-clause [i], within 14 days after receipt of the notice of the appointment of its arbitrator by the other party, then President/Chairman of the nominated Institution shall appoint arbitrator within 14 days of the receipt of the request by the nominated institution. A certified copy of the President's/ Chairman's order, making such an appointment shall be furnished to both the parties.

v) Arbitration proceedings shall be held at Mangalore, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be 'English

vi) The Arbitration shall be conducted by the experts from the panel of CIDC-SIAC Arbitration Center.

vii) The decision of the majority of arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by the Employer and the Contractor. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its case prior to, during and after the arbitration proceedings shall be borne by each party itself.

viii) All arbitration awards shall be in writing and shall state the reasons for the award.

ix) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the Employer shall not be withheld, unless they are subject matter of the arbitration proceedings.

3.18 BAR CHART:

1. Bar Chart showing stage wise activities of the work should be uploaded **along with the Technical Bid**. However, the successful Bidder shall review the Bar Chart & take prior approval from the Engineer before commencement of work.
2. An update of the Bar Chart shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

3. The Contractor shall submit to the Engineer on the first day of each week or such longer period as the Engineer may from time to time direct, a progress report in an approved form showing up-to-date total progress, progress achieved against planned progress, during the previous week and progress forecast for the following week for all important items in each section or portion of the Works, in relation with the approved Program.

4. The Contractor shall submit to the Engineer or his nominee, for approval an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer or his nominee may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
5. The Engineer or his nominee's approval of the Bar Chart shall not alter the Contractor's obligations. The Contractor may revise the Bar Chart and submit it to the Engineer or his nominee again at any time. A revised Bar Chart is to show the effect of Variations and Compensation Events.

3.19 EXTENSION OF INTENDED COMPLETION DATE:

1. The Engineer or his nominee shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

2. The Engineer or his nominee shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer or his nominee for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

3.20 DELAYS ORDERED BY THE ENGINEER OR HIS NOMINEE:

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

3.21 MANAGEMENT MEETINGS:

1. Either the Engineer or his nominee or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

2. The Engineer or his nominee shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer or his nominee either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

3.22 EARLY WARNING:

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

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

B. QUALITY CONTROL:

3.23 IDENTIFY DEFECTS:

The Engineer or his nominee shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer or his nominee may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer or his nominee considers may have a Defect.

3.24 TESTS:

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

3.25 CORRECTION OF DEFECTS:

1. The Engineer or his nominee shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

2. Every time notice of a Defect is given, the Contractor shall correct the notified defect within the length of time specified by the Engineer or his nominee's notice.

3.26 UNCORRECTED DEFECTS:

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

C. COST CONTROL:

3.27 BILL OF QUANTITIES:

1. The Bill of Quantities shall contain items for the supply, installation, testing and commissioning work.

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

3.28 VARIATIONS AND ITS VALUATION:

i. 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 fulfillment of his obligation under the contract.

ii. 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 routes, position and dimensions of any part of the work.

d. Execute extra and additional work of any kind necessary for completion of the works.

iii. 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.

iv. Provided variation in the quantity of any work will be permitted which is necessary to complete the works where such increase is not the result of any variation order given under this clause but is the result of the quantities exceeding those stated in the bill of quantities. Provided the variation shall be complied with by the Contractor and the Engineer's subsequent written confirmation of such variation shall be deemed to be an order in writing within the meaning of this clause.

v. No price escalation is allowed. The rate(s) quoted against the work shall remain firm during the entire contract period. Any change in Forex/rate shall not be considered for price variation.

vi. The purpose of this document is to define the minimum requirements for the supply, design & engineering, manufacturing, installation, inspection, Commissioning and documentation of all the items and other activities as per BOQ (Bill of Quantities) attached with tender document, for the Job /construction contractor in performing the work of **"Providing electrification to KK Gate at Wharf** ".

vii. The Contractor shall note that all the activities that are required to be performed for completion and successful commissioning of the project needs to be considered in his scope of work. Any missing activities/ supplies in BOQ or in any other project issued documents, but essential for the completion and success full implementation of the project shall be the sole responsibility of the contractor at his cost.

viii. 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, 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.

3.29 PAYMENTS:

Running bills will be paid for at quoted rates for the items in schedule, after acceptance of Bank Guarantee which shall be valid for whole contract period including Guarantee period. Payment will be made within 15 days from the date of receipt of bill, after receipt of items / satisfactory testing & commissioning of system.

Running Account Bill claim shall be submitted separately and corresponding GST for the value of service shall be shown in the tax invoice/ Bill Claim. Following are the stages of Payment;

a. 70% (Seventy percent) of supplied Item rate against receipt of material at site in good condition and after inspection of the same.

b. 20% (Twenty Percent) of supplied item rate after completion of Installation, Testing and commissioning etc. and 90 % (Ninety Percent) of payment against items covering only Installation, Testing and commissioning.

c. 10% (ten percent) will be paid on successful completion of the work and issue of Taking over Certificate in respect of the subject works (totally 100%) after acceptance of Performance Security Deposit (performance Bank Guarantee) for 3% (Three percent) value of Contract Price to cover guarantee period.

d. For BOQ items having "Supply and laying/installation/fixing/ running/testing/commissioning etc.….", 70% of quoted rate will be considered for supply of items and balance 30% will be considered for laying/installation/fixing/running/testing/commissioning etc. and payment terms at a, b & c above will be applied accordingly.

Payment along with applicable GST will be released within 15 days subject to recoveries if any, from the date of submission of Tax Invoice after satisfactory completion of work in all respect.

3.30 COMPENSATION EVENTS:

The following mutually agreed Compensation Events unless they are caused by the Contractor would be applicable;

a. The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.

b. The Employer modifies the schedule of other contractors in a way which affects the work of the contractor under the contract.

c. The Engineer or his nominee orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.

d. The Engineer or his nominee instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.

e. The Engineer or his nominee gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

f. Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract that cause delay or extra cost to the Contractor.

g. Other Compensation Events listed in the Contract Data or mentioned in the contract.

Whenever any compensation event occurs, the Contractor will notify the employer, within 14 days in writing. If a compensation event would prevent the work being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The Engineer or his nominee shall decide whether and by how much the Intended Completion Date shall be extended.

3.31 LIQUIDATED DAMAGES:

i. In case of delay in completion of the contract, liquidated damages (L.D) may be levied at the rate of 0.5% of the contract price plus applicable GST per week of delay or part thereof subject to a maximum of 10 per cent of the contract price.

ii. The Employer, if satisfied, that the works can be completed by the contractor within a reasonable time after the specified time for completion, may allow further extension of time at its discretion with or without the levy of L.D. In the event of extension granted being with L.D, the Employer will be entitled without prejudice to any other right or remedy available in that behalf, to recover from the Contractor as agreed damages equivalent to 0.5% of the contract value plus applicable GST for each week or part thereof subject to the ceiling defined in Clause **3.31(i).**

iii. The Employer, if not satisfied that the works can be completed by the contractor, and in the event of failure on the part of the contractor to complete work within further extension of time allowed as aforesaid, shall be entitled, without prejudice to any other right, or remedy available in that behalf, to rescind the contract.

iv. The Employer, if not satisfied with the progress of the contract and in the event of failure of the contractor to recoup the delays in the mutually agreed time frame, shall be entitled to terminate the contract.

v. In the event of such termination of the contract as described in clauses **3.31(iii) or 3.31(iv)** or both the Employer shall be entitled to recover L.D. up to ten per cent (10%) of the contract value and forfeit the security deposit made by the Contractor besides getting the work completed by other means at the risk and cost of the Contractor.

vi. Contractor hereby agree after due assessment of damages that there will be definite loss to the Employer in case of delay in completion of work and the amount of Liquidated damages fixed above is genuine and reasonable to be recovered. Contractor hereby further agrees that Employer is not required to prove the loss suffered to him before recovery of LD.

3.32 OBLIGATIONS OF THE CONTRACTOR:

i. The Contractor shall exercise all reasonable care and diligence in the discharge of all technical, professional and contractual duties to be performed by them under this Contract within the Time for Completion. The Contractor shall be fully responsible to the NMPA for proper, efficient and effective discharge of their duties.

ii. The Contractor shall when called upon so to do enter into and execute a Contract agreement as per clause **2.19** of this tender document.

iii. The successful Tenderer shall furnish bond in the form of Bank Guarantee towards the performance of the work as per clause **2.20** of this tender document.

iv. If the Board shall consider itself entitled to any claim under the performance Guarantee it shall forth with so inform the Contractor specifying the default of the Contractor upon which he relies. If the Contractor fails to remedy such default within 20 days after the receipt of such notice the Board shall be entitled to forfeit to the extent of the loss or damage incurred by reason of the default.

v. The Contractor shall proceed with the Works in accordance with the decisions, instructions and orders given by the Engineer in accordance with the condition of the Contract.

3.33 EXECUTION:

The Contractor shall execute and do the works set forth as described in the scope of the work and specifications, including any amendments.

3.34 EXTRAS:

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

3.35 EXISTING SERVICES: The Contractor shall not store any materials or otherwise occupy any part of the site in a manner likely to hinder the Port operation. Any damage/loss caused by the contractor to the Port property, same shall be rectified at his own cost without any delay with the satisfaction of the Engineer.

3.36 COMPLETION PERIOD:

Providing electrification to KK Gate at Wharf shall be completed within **Three (3) months** from the date of execution of Contract Agreement.

3.37 INSPECTION & TESTS:

i. The Employer or his representative shall have right to inspect the work being carried out under this Contract and to test the system to confirm conformity with the specifications. The employer shall notify the Contractor in writing of the identity of a representatives retained for these purposes.

ii. The tests may be conducted on the premises of the Contractor or its subcontractor (s) at point of delivery and at the final destination. Where conducted on the premises of the Contractor or its subcontractor (s), all reasonable facilities and assistance shall be furnished to the inspector at no discharge to the Employer.

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

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

v. The Contractor shall submit the Quality Assurance plan (QAP), Technical drawings for prior approval before commencement of Inspection / Test at manufacturer's work / Site to the Inspection Agencies / Engineers representatives.

3.38 FINAL ACCEPTANCE:

Upon completion of the work under the Contract a meeting shall be held for the purpose of accepting the system and services. Such meeting shall constitute the Final Acceptance Test under the Contract. In case defects or shortcomings or both which are considered essential, a new meeting shall be convened when the contractor has given notice of completion of the corrective work carried out. Otherwise NMPA may accept the system if the defects or shortcomings or both are not considered essential and the Contractor has agreed to carry out the modifications in conformity with this Contract.

3.39 REJECTION OF DEFECTIVE WORK:

i. If the complete system at site or any portion thereof before being taken over, is defective, or fail to fulfill the requirements of the Contract, the Engineer shall give notice to the Contractor setting forth particulars of such defects and the Contractor shall forthwith make the defective supply/Installation good or alter the same to make it comply with the requirements of the Contract.

ii. If Contractor fails to do so within a reasonable time, NMPA may reject and replace the same at the cost of Contractor, the whole, or any portion of the work, as the case may be, which is defective or fails to fulfill the requirements of the Contract. The Contractor's fails and extreme liability under this clause shall be satisfied by the payment to NMPA, the extra cost, if any, of such replacement delivered and erected. Such extra cost being ascertained shall be deducted from the Contractor's bill.

iii. If any supply of defective items shall have caused delay in the completion of the Contract so as to give rise to a claim for damage on the part of the NMPA under Clause **3.26** of Tender Document nothing contained in this clause shall interfere with or prejudice any rights of the Board of Directors with respect to such claim.

3.40 TAKING OVER CERTIFICATE:

When the whole of the works have been substantially completed and have satisfactorily passed any tests on completion prescribed by the contract, the contractor may give a notice to that effect to the engineer, with a copy to the employer, accompanied by a written undertaking to finish with due expedition any outstanding work during the defects liability period. Such notice and undertaking shall be deemed to be a request by the contractor for the engineer to issue a taking over certificate in respect of the works. The Engineer shall, within 21 days of the date of delivery of such notice, either issue to the contractor, with a copy to the employer, a taking over certificate, stating the date on which, in his opinion, the works were substantially completed in accordance with the contract, or give instruction in writing to the contractor specifying all the work which in the engineer

opinion, is required to be done by the contractor before the issue of such certificate. The Engineer shall also notify the contractor of the any defects in the works affecting substantial completion that may appear after such instructions and before completion of the works specified there in. The contractor shall be entitled to receive such taking over certificate within 21 days of completion, to the satisfaction of the engineer, of the works so specified and remedying any defects so noticed.

3.41 DEFECT LIABILITY PERIOD AFTER TAKING OVER:

i. In this condition the expression '**Defect liability period'** shall mean a period of **12 months** calculated from the date of Taking Over in accordance with clause **3.40** of Tender Document for **all works.**

ii. The Contractor shall be responsible for making good with all possible speed at his expense any defect in or damage to any portion of the Works which may appear or occur during the defect liability period without extra cost to NMPA and which arises either;

   a. From any defective materials, workmanship or Design or

   b. From any act or omission of the Contractor done or omitted during the said period.

iii. If any such defects shall appear or damage occur, the Engineer shall forthwith inform the Contractor thereof stating in writing the nature of defect or damage. The provision of this clause shall apply to all replacements or renewals carried out by the Contractor to remedy defects and damage as if the said replacements and renewals had been taken over on the date they were completed to the satisfaction of Engineer but not so as to extend the Defects Liability Period in respect thereof beyond three years from the date of taking over decided by the Engineer as the respective case of remedying may warrant.

iv. If any such defect or damages were not remedied within a reasonable time, NMPA may proceed to do the work at the Contractor's risk and expense provided that he does so in a reasonable manner.

3.42 INCOME TAX DEDUCTION:

Income Tax as at such rates applicable from time to time will be deducted at source from all running bills and Final Bill and a certificate to this effect will be issued. The deduction of Income Tax can, however, is waived if exemption certificate is produced from Income Tax Authorities. Deduction of income tax at reduced rate can be considered subject to production of valid certificate for the period from Income tax authorities.

The GST applicable shall be shown as a separate line item in the tax invoices, and shall be paid extra. Contractor should provide proper tax invoice as per GST act.

The Tenderer / Contractor shall file the applicable returns with tax departments in time and submit the same as documentary proof.

Contractor shall submit all the GST returns with in time specified. Any ITC lost by NMPA due to non filling of return will be recovered from the contractor.

3.43 The payment will be made through E-Payment. The Tenderers are required to furnish Bank details for making E-Payment as per the schedule- III of this Tender document.

3.44 MAINTENANCE OF RECORDS/REGISTERS, INSTRUCTION BOOK:

The Instruction Book is to be kept by the Contractor at the site. Any order or instructions issued by the EIC or his authorized representative shall be entered in the book. The Contractor shall sign each entry in token of having seen the same. This shall be returned to the EIC in good condition after the completion of the Contract period.

3.45 NO INTEREST ON ACCOUNT OF DELAYED PAYMENTS: Any claim for interest will not be entertained by the NMPA with respect to any payment or balance which may be in their hands owing to any disputes between themselves and the Contractor or with respect to any delay on the part of the NMPA in making payment.

3.46 GUARANTEE PERIOD:

i. The items to be supplied under this Contract shall be guaranteed for a **period of 12 (twelve) months for all works towards satisfactory performance**. The Contractor shall be responsible for any defects that may develop under proper use arising from faulty materials, Designs, workmanship in the work but not otherwise and shall at his own cost remedy such defects when called upon to do so by the Engineer who shall state in writing in what respect any portion is faulty.

ii. If it becomes necessary for the Contractor to replace or renew any defective portions of the supply of the items under this clause, the provisions of this clause shall apply to the portions of the supply so replaced or renewed until the expiry of 12 months from the date of such replacement or renewal of the above mentioned **period of 12 months**, whichever may be later. If any defects are not remedied within a reasonable time, the Port may proceed to do the work at the Contractors' risk and expenses but without prejudice to any other rights, which the Port may have against the Contractor in respect of such defects.

3.47 EXTENSION OF COMPLETION PERIOD:

If the quantum of total work increases due to additional work against the BOQ for the subject works "**Providing electrification to KK Gate at Wharf"**

suitable extension of completion period shall be taken during the approval of additional work from the Competent Authority.

3.48 DEFAULT OF THE CONTRACTOR & TERMINATION:

If the Contractor makes any default or on the happenings of anyone or more of the following events that is to say;

a. If the Contractor without reasonable cause abandons the Contract or
b. Suspends the carrying out of the Works for a reasonable time after receiving written notice from the NMPA without any lawful excuse or fails to make proper progress with Works after receiving written notice from the Engineer or
c. Fails to proceed diligently with the work or
d. Fails to give the NMPA proper facilities for inspection of the Works of any part thereof for three days after receiving notice in writing by the NMPA demanding the same or
e. The Contractor has become insolvent or
f. The Contractor has gone into liquidation or passes the resolution for winding up or
g. Upon the Contractor making an arranCPPent with or assignment in favour of his creditor or upon his assigning this contract or
h. Upon an execution being levied upon the Contractor's good or
i. Upon winding up order being passed by the court or a Receiver or manager is appointed in respect of any of the property of the Contractor or
j. Possession is taken by or on behalf of any holder of any debentures secured by floating charges of any of the property of the Contractor or
k. Fails to complete all or any part of the Works during the time specified for completion of the Contract or such extended time as may be granted by the NMPA.

3.49 TERMINATION OF THE CONTRACT

In the event of repeated instances of unsatisfactory service or any failure at any time on the part of the contractor to comply with the terms and provisions of this contract to the satisfaction of NMPA (who shall be the sole judge and whose decision shall be final, it shall also be open to NMPA to terminate this contract by giving not less than 30 (thirty) days Notice in writing to that effect and if the contractor, does not make good his default within the notice period, NMPA shall be entitled to terminate the contract as a whole or in part.

i. In the event of such termination of the contract, NMPA shall be entitled to:
   1. forfeit the Performance Guarantee as it may consider fit;

2. get the balance/remaining work done by making alternative arranCPPents as deemed necessary and until such time NMPA is able to appoint a new regular Contractor; and recover from the contractor (appointed under this tender) any extra expenditure incurred by NMPA in getting the work done and damages which NMPA may sustain as a consequence of such action.

ii. If the extra expenditure incurred by NMPA on account of unsatisfactory performance of the contractor as mentioned in paragraphs above is more than the Security Deposit proposed to be forfeited, the expenditure over and in excess of the Security Deposit may be recovered by deducting the said amount from pending bills of the contractor under this tender or from money due to the contractor by NMPA under this or any other contract or otherwise. The contractor shall have no claim whatsoever against NMPA, in consequence on such recoveries or termination of the contract, as stated above.

iii. if at any time the contractor becomes insolvent or files an application for insolvency or any creditor of his moves the court for adjudicating him as an insolvent or, if he is convicted by any court of law, withdraws from the contract, NMPA will have the absolute option of terminating the contract forthwith and he shall have no right for damages or compensations on this account.

Further, NMPA reserves the right to terminate/pre-close the contract at its convenience, without assigning reasons to the contractor by giving a notice period of 30 days. The contractor shall not have right of any claim on NMPA on account of such termination.

3.50 DEBARRING OF BUSINESS DEALINGS:

In the event of premature termination of contract in terms of provisions of clause 3.48 above, NMPA shall also be entitled to debar the Contractor for participation in future tenders of NMPA for a period of three (03) years.

Further, in case if it comes to the notice of NMPA that the Bidder/Contractor has used forged documents or misrepresented the facts in any manner either to get the contract or during the pendency of the contract, in such cases NMPA at its sole discretion may disqualify the bid / terminate the contract and debar such Bidder/Contractor for participation in future tenders of NMPA for a period of three (03) years.

3.51 NMPA's LIEN:

The NMPA shall have a lien on and over all or any money that may become due and payable to the Contractor under this Contract or any other Contract or from any amount lying with them or under their control and in respect of any debt or sum that may become due and payable by the NMPA to the Contractor either alone or jointly with another or other and either under this

Contract or under any other Contracts or transaction of any nature whatsoever the NMPA and the Contractor.

3.52 FORCE MAJEURE:

If the supply, Commissioning and Testing of equipment/materials is hindered due to force majeure such as war, riots, civil commotion, fire, epidemics, natural calamities, heavy/continuous rain for 8 hrs in a day time during monsoon such period shall be exempted from **Liquidated Damages** as mentioned in clause **3.31** of this tender document.

3.53 LABOUR LAWS:

The Contractor shall comply with all the provisions of the **Labour Laws and the rules and regulations** made there under as amended from time to time and as applicable from time to time with regard to the employees to be deployed by the Contractor for Electrification, Testing, Commissioning and Maintenance of the system.

3.54 ACTS & STATUTORY RULES:

The contractor shall comply with all the Central State and Municipal laws and rules and shall be solely responsible for complying with the provisions of the contract labour (regulations and abolition) Act 1970 and rules there under and the other enactments that may be applicable including ESI Act, the payment of wages Act, Provident Fund Act, the minimum wages Act, the factories Act, the workmen compensation act or any other applicable legislation and the Municipal by laws or other statutory rules and regulations whatsoever in force in so far as these are applicable. Any obligations finding or otherwise missed under any statutory enactments, rules and regulations there under shall be the responsibility of the contractor and the NMPA will take no responsibility for the same.

i) **The Tenderer must possess documents certifying registration under Employees State Insurance Act, EPF & MP Act and GST.**
ii) **If the Tenderer is not registered under ESI Act and EPF & MP Act for the reasons that he has not employed 10 or more workers as required under said laws, he shall submit an affidavit in this regard that he has never employed 10 or more workers on any given day preceding 12 months from the inception of its operations.**
iii) **The Tenderer to whom ESI Act and EPF & MP Act does not apply, shall mandatorily cover his workers deployed at NMPA site/premises under Employees Compensation Act Policy declaring proper wages.**

iv) The Tenderer shall submit "Indemnity Bond" as per <u>ANNEXURE-12</u> for undertaking to indemnify NMPA both loss/legal expenses incurred in case of any claims filed against NMPA by EPFO/ESIC authorities with regard to the workers of the bidder/contractor.

3.55 SAFETY GEARS:

The Contractor shall at his own expenses provide all safety gears for all labours engaged during the work and failing to do so, the NMPA shall provide the same and recover the cost there of from any amount due or which may become due to the Contractor or from any amount lying with them or under their control.

3.56 INDEMNIFICATION:

The Contractor shall agree and undertake **(ANNEXURE-11)** to indemnify, keep indemnifies, depended and hold harmless the NMPA and its Officers against all losses, penalties, costs and expenses, duties of any kind whatsoever which may arise on account of breach un-authorized act, fraud deed or any other acts of Contractor or any of its personnel. The Contractor shall also agree and undertake to indemnify and keep indemnifies against any order passed by any executive, quasi judicial or judicial authority wherein the NMPA is compelled to obey the order which arise due to breach of contract by the Contractor.

The Contractor shall indemnify, protect and defend at its own cost, New Mangalore Port Authority and its agents & employees from & against any/all actions, claims, losses or damages arising out of;

i. Any violation by the Contractor in course of its execution of the contract of any legal provisions or any right of third parties.
ii. Contractor's failure to exercise the skill and care required for satisfactory execution of the contract.
iii. The Contractor shall indemnify NMPA against all claims for compensation by or on behalf of any workman employed by him in connection with the contract, for injury or death by accident under the Workman Compensation Act (Act VIII of 1923) as amended from time to time.
iv. The Contractor shall be responsible for all commissions and omissions on part of manpower engaged for the purpose. NMPA shall not be responsible in any manner whatsoever, in matters of injury/death/health etc. of the Contractor's employees performing duties under the contract.

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4. SPECIAL CONDITIONS OF CONTRACT

4.1 The rates quoted shall be Firm and inclusive of all cost & Duties and exclusive of applicable GST. The Employer shall not provide any concessional "C" or "D" Form.

4.2 The Contractor should have **valid Electrical Contract License, ESI, PF & GST** - all in the same name (Bidder's name) and same should be uploaded along with the Technical Bid.

4.3 The Contractor shall carryout the work as a complete job i.e. Supply materials, their storage, keeping under safe custody, transporting to work site, fixing, testing and commissioning of the whole work. The Tenderers should satisfy themselves about the quantities indicated in the Schedule and it is the responsibility of the supplier to supply and make the system operational to the satisfaction of Engineer.

4.4 The supply items should have Test Certificates/warranty certificates and the same shall be submitted along with supply of materials.

4.5 Delay in making the execution site available to the Contractor will not form a cause for any claims. The Port Authority will inform the Contractor of such possible delay in advance and a suitable extension of time for completion shall be considered.

4.6 The Successful Contractor shall take approval from the Engineer in charge for technical datasheets, drawings etc. before procurement of material / fabrication of materials etc. and should supply all materials/equipments as per relevant standard & Tender specifications and carryout the complete work including Testing and commissioning as per applicable act.

4.7 Any part or whole of the system, which requires the approval of the statutory body, if any, should be arranged by the Contractor at his cost. It is the responsibility of the Contractor to submit the system drawings with all details to the statutory body and obtain their approval, if any.

4.8 All related Civil works shall be responsibility of the Contractor. The Contractor should take timely action to complete all civil works in all respects.

4.9 Power supply, if available, will be given to the Contractor **on free of cost**. Wherever such source is not available, the contractor has to make his own arrangements. Tapping of power from the source point of NMPA to the required location will have to be arranged by the Contractor at his cost conforming to IE Rules / Standards.

4.10 The Contractor has to make his own arrangement for engaging all tools & tackles, testing equipment's etc.

4.11 The Equipment shall be insured in the name of Employer for 110% of Ex-works cost from the place of dispatch to the place of destination & till handing over / taking over of the Equipment to the satisfaction of the Employer.

4.12 The Contractor has to make his own arrangements for construction of temporary stores; office work sheds etc., for their requirements at his own cost. Land for such temporary work sheds, stores, site office etc., till the work is completed will be given free of rent at spot approved by NMPA. The sheds shall be constructed with non-inflammable materials like G.I. sheets etc., and shall be removed in reasonable time after the work is completed. In case the Contractor fails to remove the same, the Department will remove the same and the cost of such removal will be recovered from any amount due from the Contractor.

4.13 **Site Register** is to be maintained by the Site Engineer (AE/AEE/EE) at site on daily basis with details of works carried out on that particular day, defects noticed by the Site Engineer (AE/AEE/EE) and instructions given to the Contractor etc. Any orders or instructions issued by the Engineer-in-Charge or Higher Authorities shall be entered in the book and shall be deemed to have been legally issued.

4.14 **Hindrance Register** is to be maintained by the Site Engineer (AE/AEE/EE) at site &should contain all the Hindrances to the work due to the reasons attributed either to the Contractor or Port date wise and date of resumption of work. The Contractor and Engineer in charge should sign each entry in token of having seen the same.

4.15 The Contractor is responsible for taking precautionary measures for the safety of the lives of the workmen working under him and the responsibility arising due to any mishap during the execution of work, the payment of any compensation etc., lies entirely on the part of the Contractor. Safety nets, life jackets, Helmets required while working in site and Danger Boards, barricades are to be provided by the Contractor without any extra cost to the Port Authority.

4.16 The Contractor should ensure, that all necessary arrangements for the safety of others and also his men and materials while performing the work, are well maintained at his cost, risk and responsibility. He should ensure proper watch of the signals by providing barricades, lights, vigils, precautionary measures etc., to ensure safety at his work.

4.17 The Port working hour is from 8.00 A.M. to 1.00 noon and from 2.00 P.M. to 5.00 P.M. If any work is carried out by the Contractor requiring supervision beyond Port working hours, the Contractor shall apply in writing well in advance of such work to the Engineer to arrange for such supervision.

4.18 All rules and regulations governing the New Mangalore Port Authority shall be applicable.

4.19 The site for the work will be handed over to the Contractor in phases for the execution as soon as the work order is given. In case the entire site is not handed over to the Contractor, he should programme his work in such a way so as not to hamper the progress in any way and a suitable extension of time shall be considered.

4.20 Any damages caused to the Port property either directly or indirectly shall be made good by the Contractor at his own cost.

4.21 The Tenderer(s) shall be required to quote his / their rates in figures as well as in words without any correction(s). If there is any correction(s) in the tender, such corrections should be attested by the Tenderer(s) before submission of the tender. However, the rates shall be quoted in words and figures, in case of dispute, rates in words shall be taken as final.

4.22 Port entry passes to the Contractor and his workmen and vehicle during the period of work will be issued on a **chargeable basis to carry out the work as per rules.**

4.23 **Completion Drawing & Documentation:**

On the basis of drawings issued and additional drawings generated during the course of execution of works & documentation required for various components and sub-components, the Contractor should prepare completion documents generally as below but not limited to;

a. Supply items - The contractor shall furnish one set of original manuals, leaflets etc. All drawings and documents are to be neatly filed in a heavy duty binder and indexed.
b. Copy of all the Test reports and Guarantee/Warrantee certificates are to be presented separately in a folder for records and reference.

4.24 The successful Bidder / Contractor shall furnish an undertaking on their Firm's letterhead for the following before executing the Contract agreement;

a. We will ensure that our workforce will be provided with and use all necessary safety gears and equipments required for the job.

b. We will follow all the required safety procedures while executing the job.

c. We indemnify the Port for any accidents / incidents while carrying out the Contract.

4.25 The Department's Standard Operating Procedure (SOP) will be shared with the successful Bidder / Contractor at the time of signing of agreement. The successful Bidder / Contractor have to give an undertaking for complying with the same. In case if the successful Bidder / Contractor does have a defined SOP for carrying out the tendered work, the same shall be submitted to the Executive Engineer (E) for scrutiny and approval for its applicability before commencement of the work.

4.26 **Addition/Alteration:**

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 in charge.

4.27 **Others**:

1) Accommodation for the deployed staff shall be arranged by the Contractor at his own cost; however, the Port quarters may be allotted on chargeable basis if available as per applicable rules of NMPA.
2) At the end of the period of contract, all the equipment under this tender shall be handed over to the Port on as is where basis is in good working condition.
3) The hardware, software and all related licenses thereto shall be under the ownership of the Port. The bidder shall obtain/issue licenses or such other certification/documentation required for the purpose in the name of the NEW MANGALORE PORT AUTHORITY.
4) The successful Bidder shall be responsible for insurance of all the manpower & hardware/network supplied and installed by vendor for risk coverage including accidental hazards, death & disability of person, material breakage due to negligence, theft, storm, fire or any other hazards which may occur due to trespassing of vehicles & /or natural adverse climatic conditions and calamities - War, Fire, Cyclone, salinity problems at shore etc.

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5. SCOPE OF WORK & TECHNICAL SPECIFICATIONS

5.1 **Scope of Work**:

New Mangalore Port Authority (NMPA) located at Panambur, in Mangaluru, Karnataka State. It is proposed for carrying out the work - Providing electrification to KK Gate at Wharf.

The purpose of this document is to define the minimum requirements for the Supply, Installation Testing and documentation of all the items and other activities as per BOQ (Bill of Quantities) attached with tender document, for the work "Providing electrification to KK Gate at Wharf".

The contractor shall note that all the activities that are required to be performed for completion and successful commissioning of the project needs to be considered in his scope of work. Any missing activities / supplies in BOQ or in any other project issued documents, but essential for the completion and success full implementation of the project shall be the sole responsibility of the contractor at his cost.

5.2 Technical Specifications: –

Details of Tender specification:

The tender specifications consist of 9 sub heads as shown below:

1. Metering panel
2. UPS System
3. Cables and Cabling.
4. Wiring System
5. Light Fixtures and Fans
6. MCB and MCB distribution Boards.
7. Earthing
8. Installation
9. Measurement

General

The bidder should note that the specifications furnished in the tender is of general nature only and it is the responsibility of the bidder to design, supply, install and commission the equipment and services required for the satisfactory performance of the installation. All the items of equipment required for the safe and satisfactory operation of the installation shall be supplied and installed by the bidder.

The intent of this specification is to define the requirements for the design, manufacture, shop testing, supply, installation, testing and commissioning of the electrical system like Power & control cables, wiring and accessories, earthing , Lightning protection, etc as per schedule of requirements.

1. Metering panel

Statutory Requirement:

Meter Boards are to be manufactured/ assembled as per the latest BIS Specifications, IP classification 54 for outdoor duty and IP42 for indoor duty, Indian Electricity Rules, including special requirements of State Electrical Inspectorate and the detailed specifications mentioned below:
Housing Details:

The meter board shall be fabricated out of 14 SWG CRCA sheet steel. Front doors shall be concealed hinged type. The switch board shall be totally enclosed, dust, weather and vermin proof Gaskets of durable material shall be provided for doors and other openings. All hardware shall be corrosion resistant. All joints and connections shall be made by galvanized zinc passivated or cadmium plated high tensile strength steel bolts, nuts and washers secured against loosening.

The cubicle shall be provided with hinged door construction and vision panel for the meter compartment. Suitable knock out for cable entry and exit shall be provided. The entire board shall be painted with 2 coats of synthetic enamel paint over a coat of zinc chromate primer etc as required including fixing it on wall, making good the damages colour washing etc. as required.

2 UPS SYSTEM (ONLINE)

(Single phase input and single-phase output Online UPS)

S. No.	Parameters	Specification	
1.	**General**		
i.	Load Capacity and Configuration	5 KVA & 3 KVA (with individual Battery Bank)	
ii.	Topology & Technology	(a) True On line UPS using latest IGBT & DSP Technology or microprocessor based (b) Double conversion (c) IGBT based Converter and Inverter with PWM	
iii.	Type of UPS	True on line UPS	
iv.	Automatic restart	Upon restoration of mains AC power, after a mains AC power outage and complete battery discharge, the UPS shall automatically restart and resume supplying power to the critical load and the rectifier shall automatically recharge the battery.	

v.	Efficiency	Greater than 90% (AC to AC) at all load capacities including full rated capacity	
vi.	Cabinet	Powder coated steel finish cabinet for UPS. UPS display should be kept at appropriate height.	
vii.	Quality certification	ISO 9001 14001	
2.	**Input parameters**		
i.	Input Voltage	3 wire, 1Ø, 220 VAC +/- 10% at 100 % of rated load	
ii.	Input frequency	50 Hz +/–5 Hz and compatible with diesel Gen Set	
iii.	Input Power factor	Greater than 0.98 at 25% to 100 % rated load.	
iv.	Input current Harmonic distortion	THD should be less than 5 percentage at 100% load	
v.	Reverse Phase Sequence	Reverse phase sequence detection and Automatic Synchronization capability without any performance degradation.	
3.	**Output Parameters**		
i.	Output Voltage	Single - Phase; 220 V	
ii.	Output Voltage Regulation	Plus or minus 1% of selected output in static loads and Plus or minus 5% of selected output for dynamic loads	
iii.	Output Voltage THD	<3% for Linear Load <5% for Non-linear Load	
iv.	Transient response	+/-5% for 100% output load step or better	
v.	Recovery time	20 milliseconds or better	
vi.	Output frequency	50 Hz Plus or minus 1 Hz or better	

vii.	Output power factor	0.8 at full rated load capacity or better	
viii.	Output waveform	Pure sine wave	
ix.	Overload rating (on inverter)	05 minutes up to 105% Load or better, 1 minute up to 125% Load or better	
x.	Switching frequency	More than 15 KHz	
xi.	Maintenance Bypass	The integral bypass shall perform an automatic transfer of the critical load from the inverter to the bypass, in the events of overload, over temperature, or inverter failure conditions without any load break.	
4.	**DC Circuit**		
i.	DC Bus Voltage	Should be such that to provide at least 15 minutes backup to load	
ii.	Permissible DC voltage variation	+/- 15 % or more	
iii.	DC ripple	< 2 % of rms or better	
iv.	Maximum Battery Charging current	Maximum battery charging current should be user selectable and should never exceed the user Selected limit.	
v.	Charging	Temperature Compensated charging	
vi.	Battery	Reputed brand	
vii.	Battery backup	a) The battery system shall have a capacity to withstand full load (KVA) for 30 minutes or more per system. b) The batteries will be installed in a battery rack. (The calculation Sheet for battery capacity and make, model & quantity, charging current of batteries should also be furnished.)	
5.	**Display and Monitoring**		

i.	Display	LCD Display and at least 30 Events or more Log facility, Input-Voltage, Current , Frequency & KVA, Output-Voltage, Current, Frequency, Load & KVA Battery -Voltage, Current	
ii.	Monitoring	LED/LCD Panel for real time monitoring. Audible alarm and Battery operation.	
iii.	PC interface & Communication	Desirable, SNMP / web adapter to be included to connect the UPS to a TCP/IP network using SNMP (Simple Network Management Protocol). The SNMP adapter shall be a plug-in card in the UPS itself. It should work with Internet/Intranet/LAN available at the Site.	
6.	**Safety**		
i.	Protection	UPS output:- Short circuit, Over load protection. UPS input:- Over voltage protection and UPS over temperature protection	
		Over shoot, under Shoot shall not be greater than 4% of the rated voltage	
		Protection from deep discharging of the batteries	
7.	**Environmental Parameters**		
i.	Operating Temperature	-5 Degree to 55 degree C	
ii.	Storage Temperature	-5 Degree to + 60 Degree C	
iii.	Relative Humidity	0 to 95 % RH	
iv.	Max altitude with full rating	1000 mtrs.	

v.	Acoustic Noise	Less than 45 dBA at 1 meter	
8.	**Services**		
i.	On Site Warranty	UPS – two year, Batteries – two years	
ii.	Installation	Supply, Installation, Testing and Commissioning (SITC) by the supplier.	
iii.	Service Centre	Manufacturer should have service centre at major cities. Authorized service certificate should be enclosed.	
iv.	24 X 7 Toll free number / Time frame for service	Should be provided. Service calls should be attended within 24 Hrs. Spares if required, for repair should be arranged within 72 Hrs.	
v.	UPS delivery submittals	The specified UPS shall be supplied with 2 User manuals having: 1. Operating procedures 2. Details of Functional description with block diagrams and location diagrams. 3. Maintenance guidelines and safety precautions.	

Technical Specifications for 12 V, AH Batteries:

(AH to be provided by supplier)

Sr. No.	**Specification**	**Value/Range**
1	Environment	
	Operating temperature	-5°C - 55° C
	Operating Humidity	0-95%
2	Battery	

	Type	Sealed Maintenance Free (SMF)
	Technology	Valve Regulated Lead Acid (VRLA)/ Absorbed Glass Mat (AGM)
	Nominal Voltage	12 V
	Rated Capacity of the Battery	To be decided by supplier as per backup of 30 minutes
3	Dimensions	Compact design and weight
4	Protection	"Fire Retardant Containers" to prevent the occurrences of fire because of batteries
5	Warranty	2 year onsite warranty

INSTALLATION, TESTING AND COMMISSIONING

Routine Tests/Acceptance test shall be conducted on the UPS system as per relevant IS/IEC standard amended up to date. CLIENT/CONSULTANT shall have the right to inspect the progress of work, quality of materials used/ workmanship and to witness the Routine tests after completion of work at the premises of the manufacturer. The contractor shall give at least 15 days advance information to CLIENT/CONSULTANT about the manufacturing and Routine tests plan so that CLIENT/CONSULTANT can attend the same.

Tests reports shall be submitted for CLIENT/CONSULTANT review and records.

3 Cables & Cabling:

Scope: The scope under this section covers the following:

a) Power cables
b) Control cables

Armouring and Serving

All multicore cables liable for mechanical damage shall be armoured.
Cables, when armoured, shall have galvanised steel wire (flat or round) for armouring.

Steel wire armouring is preferred where the cables are liable to tensile stresses in applications such as vertical runs, suspended on brackets or laid in soil that is likely to subside.

Storage and handling

1. Storage:

(i) The cable drums shall be stored on a well drained, hard surface, so that the drums do not sink in the ground causing rot and damage to the cable drums. Paved surface is preferred, particularly for long term storage.

(ii) The drums shall always be stored on their flanges, and not on their flat sides.

(iii) Both ends of the cables should be properly sealed to prevent ingress/absorption of moisture by the insulation during storage.

(iv) Protection from rain and sun is preferable for long-term storage for all types of cables. There should be enough ventilation between cable drums.

(v) Damaged battens of drums etc. should be replaced, as may be necessary.

2. Handling:

(i) When the cable drums have to be moved over short distances, they should be rolled in the direction of the arrow marked on the drum.

(ii) For manual transportation over long distances, the drum should be mounted on cable drum wheels, strong enough to carry the weight of the drum, and pulled by means of ropes. Alternatively, they may be mounted on a trailer or on a suitable mechanical transport.

(iii) For loading into and unloading from vehicles, a crane or a suitable lifting tackle should be used. Small sized cable drums can also be rolled down carefully on a suitable ramp or rails, for unloading, provided no damage is likely to be caused to the cable or to the drum.

Standards

The following standards shall be applicable:

1. IS : 2982 : Specification for copper conductors in insulated cables.
2. IS : 5831 : Specification for XLPE insulated and PVC sheath of electric cables.
3. IS : 6474 : Polythene insulation and sheath of electric cables.
4. IS:3975 : Specification for mild steel wires, strips and tapes for armouring of cables.
5. IS : 694 : PVC insulated cables.
6. IS : 7098 : Specification for XLPE insulated PVC sheathed cables.
7. IS : 3961 : Recommended current ratings of cables.
8. IS : 5819 : Recommended short circuit ratings for high voltage PVC cables.

Power cables (LV) 1.1kV grade XLPE insulated cable

Power cables for use on 415 V system shall be of 1100 volt grade, Aluminium conductor, XLPE insulated, PVC sheathed, armoured and overall PVC sheathed cable, strictly as per relevant IS specification. Unarmoured cable to be used only if specifically mentioned in schedule of requirements. Bi-metallic plate washers should be provided wherever cables, lugs, and switch terminals are of different materials. Cables and cable lugs should be of same material where ever possible.

The size of these cables shall be as specified in schedule of requirements or as per erection drawings. No Aluminium conductor cable of size less than 4 sq.mm shall be used.

Control Cables

Control cables for use on 415 V system shall be HFFR (halogen free Fire retardent) type 1100 volts grade, copper conductor, PVC insulated, PVC sheathed, armoured/ steel braided and overall PVC sheathed, strictly as per IS : 1554 (Part I) - 1978. Unarmoured cables to be used only if specifically mentioned in schedule of requirements.Control cable carrying current should be black colour and voltage circuit shall be of grey colour and shall be segregated.

The size of these cables shall be as specified in schedule of requirements or as per erection drawing. No cable of size less than 2.5 sq.mm. shall be used.

Cable Glands

Cable glands shall be of heavy duty double compression type of brass, chrome plated. These shall have a screwed nipple with conduit electrical thread and checknut. These shall be suitable for armoured/unarmoured cables, which is being used.

Cable Connectors

Cable connectors, lugs/sockets, shall be of copper/aluminium alloy, suitably tinned, solderless, crimping type. These shall be suitable for the cable being connected and type of function (such as power, control or connection to instruments, etc.)

Cable Indicators
These shall be self-sticking type and of 2 mm thick lead strap for overall cable. PVC identification numbers, ferrule shall be used for each wire.

Cable Route Markers
These shall be galvanised Cast Iron plate with marking (LT/HT) diameter 150 mm with 600 mm long 25x25 mm MS. angle riveted/bolted with this plate.

G.I. Pipes for Cables
For laying of cables under floor, ground etc. G.I. class 'B' pipes shall be used. MS. conduits is not acceptable for this purpose. All accessories of pipes shall be threaded types. Size of pipe shall depend upon the overall outer diameter of cable to be drawn through pipe. No G.I pipe less than 40 mm dia. shall be used for this purpose. To determine the size of pipe, assume that 40% area of pipe shall be free after drawing of cable.

4 WIRING SYSTEMS

Materials:

A. Wires

Wires shall comply the following features:

- Flame Retardant Low Smoke (FRLS), suitable upto 660V grade wires for single phase circuits and 1100 V grade for 3 phase circuits as per IS 694/1990 amended upto date.

- Colour coded as below:

Phase - R	-	Red
Phase - Y	-	yellow
Phase - B	-	Blue
Neutral	-	Black
Earth	-	Green

B. Conduits

Two types of Conduit Wiring System shall be followed.

- Rigid Steel Conduit Wiring System
- Rigid PVC (heavy gauge) Conduit Wiring System

i. General requirements:

All rigid conduit pipes shall be ISI marked. The wall thickness shall be not less than 1.4 mm thickness for conduit up to 20 mm dia, 1.6mm thickness for conduit for 25 mm dia, 1.9mm thickness for conduit for 32 mm dia and not less than 2 mm for conduits above 32 mm dia.

b) The maximum number of PVC insulated cables conforming to IS:694-1990 that can be drawn in one conduit is given size wise in Table I, and the number of cables per conduit shall not be exceeded. Conduit sizes shall be selected accordingly in each run.

c) No conduit less than 20 mm in diameter shall be used.

Flexible conduits will only be permitted for interconnections between switchgear, DB's and conduit terminations in wall.

All flexible conduits used in the system should be Halogen free, flame retardant and self extinguishing polyamide conduits.

ii. **Conduit Accessories**

a) The conduit wiring system shall be complete in all respects, including their accessories.

b) All conduit accessories shall be of solvent cement plastering type, and should have undergone circumstances pin grip type of clamp grip type accessories shall be used.

c) Bends, couplers, etc. shall be solid type in recessed type of works and may be solid or inspection type as required.

d) 1) Saddles for surface conduit work on wall shall not be less than 0.55 mm (24 gauge) for conduits up to 25 mm dia. and not less than 0.9 mm (20 gauge) for larger diameter.

2) The minimum width and the thickness of grider clips used for fixing conduits to steel joists, and clamps shall be as per **Table II.**

iii. **Outlets**

a) The switch box or regulator box shall be made of metal on all sides, except on the front. In the case of cast boxes, the wall thickness shall be at least 2 mm and in case of welded mild steel sheet boxes, the wall thickness shall not less than 1.2 mm (18 gauge) for boxes upto a size of 20 cm x 30 cm, and above this size 1.6 mm (16 gauge) thick MS boxes shall be used. The metallic boxes shall be duly painted with anticorrosive paint before erection.

b) An earth terminal with stud and 2 metal washers shall be provided in each MS box for termination of protective conductors and for connection to socket outlet/metallic body of fan regulator etc.

c) Clear depth of the box shall not be less than 60 mm, and this shall be increased suitably to accommodate mounting of fan regulators in flush pattern.

d) The fan regulators can also be mounted on the switch box covers, if so stipulated in the tender specifications, or if so directed by the Engineer-in-charge.

e) Except where otherwise stated, 3 mm thick phenolic laminated sheets as per clause shall be fixed on the front with brass screws, or cadmium plated iron screws as approved by the Engineer-in-charge.

TABLE I

MAXIMUM NUMBER OF PVC INSULATED 650/1100 V GRADE ALUMINIUM/ COPPER CONDUCTOR CABLE CONFORMING TO IS: 694-1990 IN RIGID PVS/STEEL CONDUITS

Nominal cross sectional area of conductor in sq.mm	20 mm	25 mm	32 mm	38 mm	51 mm	64 mm
	S B	S B	S B	S B	S B	S B
1.5	5 4	10 8	18 12	- -	- -	- -
2.5	5	8 6	12	- -	- -	- -
4	3	6 5	10	- -	- -	- -
8	3 2	5 4	10 8	- -	- -	- -
10	2	4 3	8 7	8 6	- -	- -
16	-	2 2	6 5	6 5	10 7	12 8
25	2 -	- -	3 3	5 3	8 6	9 7
35	-	- -	3 2	3 2	6 5	8 6
50	-	- -	- -	- -	5 3	6 5
70	- - - - - - - -	- - - -	- - - -	- -	4 3	5 4

Note:

1) The above table shows the maximum size of conduits for a simultaneous drawing of cables.

2) The columns headed S apply to runs of conduits which have distance not exceeding 4.25 m between draw in boxes and which do not deflect from the straight by an angle of more than 15 degrees. The columns headed B applies to runs of conduit which deflect from straight by an angle of more than 15 degrees.

3) Conduit sizes are the nominal external diameters.

TABLE II

GIRDER CLIPS CLAMPS

Size of conduit	Width	Thickness
20 mm	19 mm	0.9 mm (20 SWG)
25 mm	19 mm	0.9 mm (20 SWG)
32 mm & above	25 mm	1.2 mm (18 SWG)

WIRING

A. POINT WIRING

i) Definition

A point (other than socket outlet point) shall include all works necessary in complete wiring to the following outlets from the controlling switch or MCB. The scope of wiring for a point shall, however, includes the wiring work necessary in tapping from another point in the same distribution circuit: -

(a) Ceiling rose or connector (in the case of points for ceiling /exhaust fan points, pre-wired light fittings and call bells).
(b) Ceiling rose (in the case of pendants except stiff pendants).
(c) Back plate (in the case of stiff pendants).
(d) Lamp holder (in the case of gooseneck type wall brackets, batten holders and fittings which are not pre-wired).

In the case of call bell points, the words “from the controlling switch or MCB” shall be read as “from the ceiling rose meant for connection to bell push”.

ii) Scope

(a) Following shall be deemed to be included in point wiring.

1) Conduit, accessories for the conduit and wiring cables between the switch box and the point outlet.
2) Ceiling rose or Connectors shall be provided near the fitting as required.
3) For points coming in false ceiling, as far as possible, wiring shall be terminated in a junction box/connector very close to the points. The cost of additional length of

wires used in this regard shall be treated as replacement of 3Rx1.5sqmm wire against the items specified in BOQ in fixing of fitting using chain/down rod.

4) For points coming in false ceiling, all conduits shall be adequately supported. For this purpose, MS supports shall be provided as specified in BOQ as a separate item.
5) Loop wiring in rigid/flexible conduit
6) All fixing accessories such as clips, nails, screws, Phil plug, raw plug etc. as required.
7) Metal switch boxes for control switches, regulators, sockets etc. recessed or surface type, and phenolic laminated sheet covers in case of piano type switches and outer & inner cover plates in case of modular type switches.
8) Outlet boxes, junction boxes, pull-through boxes etc. but excluding metal boxes if any, provided with switchboards for loose wires/conduit terminations.
9) All the civil works such as chipping, plastering, Making good all damages connected with the fixing of switch boxes, conduit laying etc are included in the scope.
10) Control switch as specified.
11) Connections to ceiling rose, connector, lamp holder, switch etc.
12) Interconnecting wiring between points on the same circuit, in the same switch box or from another.
13) Loop earthing in rigid/flexible conduit
14) Protective (loop earthing) conductor from one metallic switch box to another in the distribution circuits, and for socket outlets.(The length of protective conductor run along with the circuits/submains is excluded from the scope of points).

B. Following shall be deemed to be included in group control point wiring.

1) Conduit, accessories for the conduit and wiring cables between the Control location (DP/SP MCB/Isolator/ DP switch) to the first point and wiring cable between points forming the particular number of group (providing MCB or switch is not included in this scope).
2) Ceiling rose or Connectors shall be provided near the fitting as required.
3) For points coming in false ceiling, as far as possible, wiring shall be terminated in a junction box/connector very close to the points. The cost of additional length of wires used in this regard shall be treated as replacement of 3R x 1.5sqmm wire against the items specified in BOQ in fixing of fitting using chain/down rod.
4) For points coming in false ceiling, all conduits shall be adequately supported. When large number of points comes in false ceiling, conduits shall be run in adequate steel supports/tray. The size and cross section of the above mentioned supports shall be planned as per the site condition and got approved by the engineer in charge before commencing the work. MS supports provided shall be as specified in BOQ and will be a separate item.
5) Loop wiring in rigid/flexible conduit
6) All fixing accessories such as clips, nails, screws, Phil plug, rawl plug etc. as required.

7) Junction boxes, pull-through boxes etc. but excluding metal boxes if any, provided with MCBDB for loose wires/conduit terminations.
8) Connections to ceiling rose, connector, MCB etc.
9) Loop earthing in rigid/flexible conduit

C. CIRCUITS AND SUBMAIN WIRING

i) Circuit wiring
Circuit wiring shall mean the wiring from the distribution board up to the tapping point for the nearest first point of that distribution circuit, viz. Upto the nearest first switch box.

ii) Sub main wiring
Sub main wiring shall mean the wiring from one main/ distribution switchboard to another.

D. WIRING IN CONDUIT

The wiring in conduit shall comply the following:

- **Wire sizes**

Copper conductor

Light point / Sub main wiring	1.5 sq.mm
Light Circuit Point	2.5 sq.mm
Power points	4.0 sq.mm

Machinery as per schedule of requirements

Jointing of wires is not permissible, however looping may be done from point (same circuit) or using a terminal strip in junction box where site condition warrants, prior permission from Engineer-in-Charge shall be obtained.

Metallic/non-metallic trunking may be used if number of conduits is many. The metallic trunking shall be earthed securely at DB end and throughout the length. Single trunking with metallic partition may be used for wiring different services.

E. WIRING ACCESSORIES

i) **Control switches for points**

(a) Control switch shall be placed only in the live conductor of the circuit. No single pole switch or fuse shall be inserted in the protective (earth) conductor, or earthed neutral conductor of the circuit.
(b) Combined switch cum socket shall not be permitted.

ii) Socket outlets

The 5A/6A socket outlet shall be 5 pin socket outlet with 5A/6A switch, where so specified in the tender documents.

The power point outlet shall be 15A/5A or 16A/6A 6 pin socket outlet with 15A/16A switch, where so specified in the tender documents.

iii) **Switch box covers**

Phenolic laminated sheet of 3 mm thick of approved shade shall be used for switch box covers in case of piano type switches. For Modular type switches/ sockets suitable outer and inner cover plates as specified shall be provided over the standard box as recommended by the manufacturers of modular type switch/ sockets and no separate sheet cover is required to be provided.

iv) Ceiling rose

(a) Ceiling rose shall be of 3-plate type.
A ceiling rose shall not be used on circuit the voltage of which normally exceeds 250V.

(b) Only one flexible cord shall be connected to a ceiling rose. Specially designed ceiling roses shall be used for multiple pendants.

(c) A ceiling rose shall not embody fuse terminal as an integral part of it.

(d) Where ever ceiling roses are not used the wires are to be terminated in good quality connectors of 6A capacity inside PVC junction boxes.

(e) All the junction boxes are to be covered with good quality round cover plate of approved colour.

v) Lamp holders

(a) The standard constructional feature of manufacturers (ISI approved) of lamp holders is acceptable.

(b) Where the lamp holders are part of light fixtures the holders shall be suitable for the type of lamps used.

F. **MS Items:**

i) Scope

Supply, fabrication, painting and fixing of M.S items such as Flat /Tees /Angles / Channels etc. required for the cable bay/conduit tray and necessary civil works such as grouting, finishing etc.

Scope covers supply of all anchor fasteners, anchor bolts and all connected civil works such as cutting holes on wall, making good the same.

ii) Material

The steel sections used should be of good quality, manufactured by reputed companies. Steel sections of reputed manufacturers (like SAIL, Vaizah steel etc) shall be used. If smaller sections of these makes are not available, re-rolled steels

of reputed make shall be used. In any case the make of steel should be got approved from engineer in charge before its supply.

5 LIGHT FIXTURES AND FANS

The type of fittings shall be as specified in BOQ of tender documents.

i) Fittings using discharge lamps shall be complete with power factor correction capacitors, either internally or externally. An earth terminal with suitable marking shall be provided for each fitting for discharge lamps.
ii) The contractors shall supply the specified type of lamp mentioned in the BOQ. All the accessories of the light fittings should be fitted with nut bolt and not to be riveted.
iii) Unless otherwise specified, Copper chokes of Fluorescent Tube light Fittings shall be of super low loss type (Not more than 6 watts) or as specified in BOQ.
iv) Ceiling fans including their suspension shall conform to relevant Indian Standards.
v) Wall Fans, Air Circulators, Exhaust fans etc shall conform to relevant Indian Standards.

6 M C B Distribution Boards (MCB DBs) and accessories.

A) M C B Distribution Boards (MCB DBs):

All SPN & TPN DBs are to be weather proof, thermo plastic or MS powder coated suitable for flush mounting with double door and to be provided with inbuilt additional compartment for looping of loose wires/adapter boxes for entry of armoured cables with IP 42 category of protection and conform to IS: 8623.

i) **Material**

The DBs are to be fabricated out of CRCA sheets suitable for all weather operation. The current carrying parts are to be made of electrolytic grade copper and are to be rated for the duty intended. The DBs should have knock out holes at the bottom, and detachable plate with knock out holes at the top.

ii) **Painting**

The DBs are to be subjected to seven tank phosphatising processes (Degreasing, pickling, surface activation, phosphatising and passivation) and to be powder coated ensuring rust prevention and scratch resistant.

iii) **Accessories**

Following accessories are to be provided: -

(a) Copper bus bars of rated current capacity per phase.

(b) Special brass terminals to ensure perfect connections of incoming cable with the bus bars.

(c) Brass neutral bars three numbers, one for each phase, isolated andinsulated from the enclosures with suitable cross sectional area.

(d) Earth bars for firm earthing and for facilitating individual earthings for each outgoing terminal.

(e) Sufficient number of blanking plates.

(f) Provision for accommodating four pole MCB and RCCB as incomer.

B) Miniature Circuit Breakers (MCBs)

All MCBs should conform to IS:8828(1996), BS: 3871, IEC:898(1995) and rated for 10kA category of short circuit duty and tested for breaking capacity upto 10 kA. B curve type MCBs should be used for resistive loads, C curve type for inductive loads and D curve type for UPS loads. MCBs shall be suitable for use in frequency range 40 Hz to 60 Hz and shall accommodate AC/DC supply according to requirements. It should have inverse time overload and short circuit tripping mechanism with trip free operation and toggle shall give positive contact indication. Arc chutes should be provided for effective quenching of arc during operations and fault conditions. Terminals should be provided with proper shrouding arrangement. Silver cadmium Oxide tipped contacts should be provided in MCBs. Pressure clamp terminals for users upto 4 sq.mm and bolted lugs for higher rating should be provided. Multipole MCBs should be provided with common operating handle and integral tripping. The MCBs shall be of IP 20 degree of protection. The power loss per pole shall be in accordance with IS:8828(1996) and shall be furnished by the manufacturer.

MCB casing shall be made of self extinguishing tropicalised material. It shall be suitable for mounting on 35 mm DIN rail/surface mounting. Line supply may be connected to either top or bottom terminals i.e there shall be no line load restriction. Degree of protection, when the MCB is flush mounted, shall be IP 40. MCB shall be supplied with clamping terminals fully open. Contact closing shall be independent of thespeed of theoperator. The MCB shall be capable of being used as incomer circuit breaker and shall be suitable for use as an isolator. In case of multiple MCBs ina single location (DB), it shall be possible to remove MCB without having to disturb other MCBs in the vicinity. All MCB's shall be capable of carring 35sq.mm. cable termination. Both the upper and lower terminals of MCB's shall be bi-connect type, ie., capable of connecting busbar and cable at both the end.

C) Residual Current Circuit Breaker (RCCB)

Residual Current Circuit Breakers based on residual current operation should provide complete protection against Earth leakage faults. The breakers should conform to IS: 12640-1988, IEC 601008-1 and IS: 8828-1996 should be rated for 6 kA or more. The RCCB shall have threshold sensitivities (non-user adjustable) of 30mA, 100 mA & 300 mA with inbuilt time delay of 200 ms for discrimination with downstream RCCB. The short circuit withstand capacity of the RCCB shall not be less than 6 kA. It shall be operationally independent of line voltage. The breaker should be maintenance free. The breaker should be capable of detecting

earth leakage currents and disconnecting the faulty lines. The RCCBs should be capable of preventing the risk of unwanted tripping due to transient voltages (lightning, line disturbances on other equipment) and transient currents (from high capacitive circuits). The RCCB should be unaffected by the DC pulsated components, present if any in the circuit, and should not give nuisance tripping. A test devise should be incorporated to check the integrity of the system and tripping mechanism. Terminals should ensure easy termination of cables and should provide covers to shield incoming and outgoing terminals with IP 20 degree of protection. The breaker should be suitable for DIN rail mounting. All RCCB's shall be capable of carring 35sq.mm. cable termination. Both the upper and lower terminals of RCCB's shall be bi-connect type, ie., capable of connecting busbar and cable at both the end.

7 Earthing

Types: The type of earth electrode shall be any of the following, as specified.

1. Pipe earth electrode; as per IS:3043

General

All cladding or steel work should be bonded to the earthing system, as should all structural steel work. A main earth bar should be provided, so disposed as to allow of the shortest subsidiary connections to all major equipment, such as DG set, Substations and electrical panel boards. When piles are used they should be bonded by welding and connected to earth bonding bars. All earth connections shall be visible for inspection.

i) Electrode materials and dimensions

a) The materials and minimum sizes of earth electrodes shall be as per fault level calculation.

b) GI pipe electrodes shall be cut tapered at the bottom, and provided with holes of 12 mm dia, drilled not less than 7.5 cm from each other upto 2 m of length from the bottom.

c) Pipe electrode shall be buried in the ground vertically with its top not less than 20cm below the ground level. The installation shall be carried out as per IS:3043 and as directed by the engineer in charge.

d) Plate electrode shall be buried in ground with its face vertical, and its top not less than 2m below the ground level. The installation shall be carried out as per IS:3043 and as directed by the engineer in charge.

e) When more than one electrode is to be installed the distance between the pipe electrode shall be 5m and that between plates shall be 8m.

f) The strip or conductor electrode shall be buried in trench not less than 0.5m deep.

g) If the conditions necessitate the use of more than one strip or conductor electrode, they shall be laid as widely distributed as possible, in a single straight trench where feasible, or preferably in a number of trenches radiating from one point or as directed by the Engineer-in-charge.

h) All joints in copper conductor should be tinned properly.

Earthing Conductor

a) The earthing conductor (protective conductor from earth electrode upto the main earthing terminal/earth bus, as the case may be) shall be of the same material as the electrode, viz. GI or copper, and in the form of wire or strip as specified.

b) Protective (Earth continuity/Loop earthing) Conductor)

c) The material and size of protective conductors shall be as specified by the Engineer-in-charge.

Location for Earth Electrodes

i) Normally an earth electrode shall not be located closer than 1.5 m from any building. Care shall be taken to see that the excavation for earth electrode does not affect the foundation of the building; in such cases, electrodes may be located further away from the building, with the prior approval of the Engineer-in-Charge.

Protective (Loop earthing/earth continuity) Conductor:

i) Earth terminal of every switchboard in the distribution system shall be bonded to the main earth bus.

ii) Two protective conductors shall be provided for a switchboard.

iii) A protective conductor shall securely connect the earth connector in every distribution board (DB) to the earth bus.

iv) All metallic switch boxes and regulator boxes in a circuit shall be connected to the earth connector in the DB by protective conductor.

v) Provision should be given for the testing of earth electrodes by connecting a group of rod driven electrodes to the main earth grid through a bolted link adjacent to the electrodes in a sunken concrete box. Simpler disconnecting arrangements are not acceptable.

Marking

i) Earth bars/terminals at all switch boards shall be marked permanently as E

ii) Main earth terminal shall be marked Safety Earth – Do Not Disconnect.

8 INSTALLATION

Scope:

The intent of this specification is to define the requirements for the installation, testing and commissioning of the electrical items mentioned in the schedule of requirements. The work shall, however at all times carried out strictly as per the instructions of the Engineer-in-Charge.

The Contractor shall furnish all tools, welding equipment, rigging materials, testing equipment, test connections and kits etc. Required for complete installation, testing and commissioning of the items included in the Contract.

The Contractor shall carry out touch-up painting on any equipment indicated by the Engineer-in-Charge, if the finish paint on the equipment is soiled or marred during installation handling.

The interconnecting control cables between LT panel boards, 230V auxillary power supply etc. should be done by the contractor as required.

The installation shall conform in all respects with Indian Standard Code of Practice.

Cabling:

Cable network shall include power, control and lighting cables, which shall be laid in underground trenches, Hume pipes, open trenches, cable trays, GI pipes, or on building structure surfaces as detailed in the relevant drawings. Cable schedules or as per the Engineer-in-charge's instructions. Supply and installation of cable trays, GI pipes/conduits, cable glades sockets at both ends, isolators, junction boxes, remote push buttons stations, etc. shall be under the scope of the Contractor.

General requirements for handling of cables

a) Before laying cables, these shall be tested for physical damage, continuity absence of cross phasing, insulation resistance to earth and between conductors. Insulation resistance tests shall be carried out with 500/1000 volt Megger.

b) The cables shall be supplied at site, wound on wooden drum as far as possible. For smaller length and sizes, cables in properly coiled form can be accepted. The cables shall laid by mounting the drum of the cable on drum carriage. Where the carriage is not available, the drum shall be mounted on a properly supported axle, and the cable laid out from the top of the drum. In no case the cable will be rolled on, as it produces kinks which may damage the conductor.

c) Sharp bending and kinking of cables shall be avoided. The bending radius for PVC insulated and sheath armoured cable shall not be less than 10 D Where 'D' is overall diameter of the cable.

d) While drawing cables through GI pipes, conduits, RCC pipe, ensure that size of pipe is such that, after drawing cables, 40 % area is free. After drawing cable, the end of pipe shall be sealed with cotton/bituminous compound.

e) High voltage (11 kV and above), medium voltage (230 V and above) and other control cables shall be separated from each other by adequate spacing or running through independent pipes/trays.

f) Armoured cables shall never be concealed in walls/floors / roads without GI pipes, conduits RCC pipes.

g) Joints in the cable throughout its length of laying shall be avoided as far as possible and if unavoidable, prior approval of site engineer shall be taken. If allowed, proper straight through epoxy resin type joint shall be made, without any additional cost.

h) A minimum loop of 3 M shall be provided on both ends of the cable, or after every 50 M of unjointed length of cable and on both ends of straight through cable joint. This additional length shall be used for fresh termination in future. Cable for this loop shall be paid for supply and laying.

i) Cable shall be neatly arranged in the trenches/trays in such a manner so that criss-crossing is avoided and final take off to the motor/switchgear is facilitated. Arrangement of cables within the trenches/trays shall be the responsibility of the Contractor.

j) All cable routes shall be carefully measured and cable cut to the required lengths and undue wastage of cables to be avoided. The routes indicated in the drawings is indicative only and the same may be rechecked with the Engineer-in-charge before cutting of cables. While selecting cable routes, interference with structures, foundations, pipe line, future expansion of buildings, etc. should be avoided.

k) All temporary ends of cables must be protected against dirt and moisture to prevent damage to the insulation. For this purpose, ends of all PVC insulated cables shall be taped with a PVC or rubber insulating tape. Use of friction type or other fabric type tape is not permitted. Lead sheathed cables shall be plumbed with lead alloy.

l) Wherever cable rises from underground/concrete trenches to motors/ switchgears/ push buttons, these shall be taken in GI pipes of suitable size, for mechanical protection upto 300 mm distance of concerned cable gland or as instructed by the Engineer-in-charge.

m) Where cables pass through foundation/walls of other underground structures, the necessary ducts or openings will be provided in advance for the same. However, should it become necessary to cut holes in existing foundations or structures the electrical Contractor shall determine their location and obtain approval of the Engineer-in-charge before cutting is done.

Installation of Cables

Wherever cables are taken through masonry works and road crossings etc., they shall be protected by running through GI pipes and Hume pipes respectively. Depth shall be 1200 mm from top of finished road surface and it shall extend for about 1070 mm on both sides of the roads.

Utmost care shall be taken to avoid scratches, kinks and cuts on the conductor while transporting the cables to site or during installation. Suitable inhibiting grease shall be liberally applied to bare conductors, wherever they exist.

The junction boxes, cable end boxes etc. wherever required to be provided shall have sufficient wiring spaces with regard to the sizes of cables indicated in the drawings. Wherever required, the items to be supplied for electrification shall be complete with requisite type of cable glands, cable boxes, termination etc. and other accessories which are necessary for the satisfactory installation/operation of the installations as per relevant statutory rules and regulations.

Installation of all cables should be as per E.I. Standards. Fuses should be graded properly and should be selected based on the rating of cables. The cables shall be laid in trenches/overhead racks wherever available. The cables from cable trenches to the switcher shall be buried (as per standard practices and or taken through GI pipes to 1.2 m above ground/racks floor level. The cables taken over racks/ walls/ columns/ trusses shall be properly clamped using aluminium clamps of 16 SWG 1/4 hard or 3/4 hard sheet, the width varying from 12.5 to 25 mm at intervals of 750 mm. 225 mm minimum horizontal interaxial spacing shall be maintained when more than one cable is laid in same trench. Suitable and permanent type of cable markers is to be provided indicating the route and position of joints of cable. Loops should be provided at either ends of the cable. Identification tags should be provided for each cable in the trench at a distance of 3 metres.

Supply and installation of danger notice boards, where required, and other provisions under the statutory rules and regulations shall be included in the scope of this work.
The Contractor has to provide materials and carry out the wiring work including earthing according to IS 3043 unless otherwise specified and get it approved before using for work, by the authorised engineer of the Purchaser.

The complete installation work shall be conforming to NEC-1985 and complying with the Indian Electricity Rules and to meet the approval of the State Electrical Inspector etc. Installation of all switch boards and distribution boards should be in conformity with Rule 51(1)(c) of I.E.R. 1958. MV installation should conform to I.S. 7732.

The cable terminations and earth terminations, wherever required, shall only be using compression type cable glands and suitable lugs.

All the materials to be supplied for this work shall be got approved by the concerned engineer at site.

The work will be considered complete only if the following tests are conducted, by the contractor at his own cost, satisfactorily in the presence of the site Engineer and are:

a) Insulation test

b) Earth resistance test and

c) Continuity test

Laying of Cables (underground system)

a) Cables shall be so laid in ground that these will not interfere with other underground structures. All water pipes, sewage lines or other structures, which become exposed by excavation, shall be properly supported and protection from injury until the filling has been rammed solidly in places under and around them. Any telephone or other cables coming in the way are to be properly shielded diverted as directed by the Purchaser.

b) Cables shall be laid at minimum depth of 750 mm in case of LT & 1200 mm in case of HT, from ground level. Excavation will be generally in ordinary alluvial soil. The width of the trench shall be sufficient for laying of required number of cables.

c) Sand bedding 75 mm thick shall be made below and above the cables. A layer of bricks (full size) shall be laid on the edge, above sand bedding on the sides of cables and a flat brick to cover cable completely. More than one cable can be laid in the same trench by providing a brick on edge between two cables. However the relating location of cables in trench shall be maintained till termination. The surface of the ground after back filling the earth shall be made good so as to conform in all respects to the surrounded ground and to the entire satisfaction to the Engineer-in-charge.

d) For all underground cables, route markers should be used.
   i) Separate cable route markers should be used for LT, HT and telephone cables.

   ii) Route markers should be grounded in ground with with 1:2:4 cement concrete pedestal size 230 x 230 x 300 mm.

   iii) Cable markers should be installed at an interval not exceeding 50 M along the straight routes of cables at a distance of 0.5 M away from centre of cable with the arrow marked on the cable markers plate indicating the location of cable. Cable markers should also be used to identify change in direction of cable route and for location of every joint in underground cable.

e) RCC hume pipes for crossing road in cable laying shall be provided by Contractor. RCC hume pipe at the ends shall be sealed by bituminous compound after laying and testing of cable by electrical Contractor without any extra charge.

Laying of Cables under Floors

a) GI class A pipe shall be used for laying of outgoing cables from distribution boards to various equipment. Preferably one cable shall be drawn through one pipe. Size of pipe shall be such that after drawing of cable 40 % area is free. If length of pipe is more than 30 M, free area may be increased to 50 %.

b) Use of elbows is not allowed at all and number of bends shall be kept minimum. Instead of using bends with sockets, pipe bending machine shall be used for making long smooth bends at site.

c) Ends of pipe shall be sealed temporarily while laying with cotton/jute/rubber stopper etc. to avoid entry of building material.

d) Exact locations of equipment shall be ascertain prior to laying of pipe.

Laying of Cable in Masonry Trenches

a) Masonry/concrete trenches of laying of cable shall be provided by Contractor. However steel members such as MS angles/flats etc. shall be provided & grouted by electrical Contractor to support the cables. Cables shall be clamped to these supports with aluminium saddles/damps. More than one tier of cables can be provided in the same trench if the number of cables is more.

b) Entry of cables in trenches shall be sealed with bituminous MASTIC compound to stop entry of water in trenches.

Laying of Cables in Cable Racks

Cable Racks to be used for cables laid indoors except for single cables. The cable racks shall be of ladder type fabricated out of structural steel, MS, GI or aluminium perforated as indicated. The cable racks shall be of adequate strength to carry the weight of cables with out sagging. Structural bracket grounted in the build up trenches to support the cable such supports shall be at intervals of minimum 750 mm centres. All the structural steel work shall be finished with two coats of paint over primer.

a) Cables shall be fixed in cable trays in single tier formation and shall be clamped with aluminium flat clamps and galvanised bolts/unit.

b) Earthing flat/wire can also be laid in cable tray along with cables.

c) After laying of cables minimum 20 % area shall be spare.

Laying of Cables on Building Surface/Structure

a) Such type of cable laying shall be avoided as far as possible and will be allowed only for individual cables or small group of cables which run along structure.

b) Cables shall be rigidly supported on structural steel/masonry using individual cast/malleable iron galvanised saddles and these supports shall be approximately 400 to 500 mm for cables upto 25 mm overall diameter and maximum 1000 mm for cables larger than 25 mm. Unsightly sagging of cables shall be prevented. Only aluminium/GI clamps with GI bolts/nuts shall be used.

c) If drilling of steel structure must be resorted to, approval must be secured from the Engineer-in-charge and steel must be drilled where the minimum weakening of the structure will result.

Termination and Jointing of Cables

a) **Use of Glands**

All PVC cable upto 1.1 kV grade, armoured or unarmoured shall be terminated at the equipment/junction box/ isolators/push buttons/control accessories, etc. by means of suitable size compression type cable glands armour of cable shall be connected to earth point. The Contractor shall drill holes for fixing glands wherever necessary. Wherever

threaded cable gland is to be screwed into threaded opening of different size, suitable galvanised threaded reducing bushing shall be used

In case of termination of cables at the bottom of the panel over a cable trench having no access from the bottom, a close fit holes should be drilled in the bottom plate for all the cables in one line, then bottom plate should be split in two parts along the centre line of holes. After installation of bottom plate and cables with glands, it shall be sealed with cold sealing compound.

b) **Use of Lugs/Sockets**

All cable leads shall be terminated at the equipment terminals, by means of crimped type solder less connectors unless the terminals at the equipment ends are suitable for direct jointing without lugs/sockets.

The following is the recommended procedure for crimped joints and the same shall be followed:

i) Strip off the insulation of the cable end with every precaution, not to severe or damage any stand. All insulation to be removed from the stripped portion of the conductor and ends of the insulation should be clean and square.

ii) The cable should be kept clean as far as possible before assembling it with the terminal/socket. For preventing the ingress of moisture and possibility of re-oxidation after crimping of the aluminium conductors, the socket should be fitted with corrosion inhibiting compound. This compound should also be applied over the stripped portion of the conductor and the palm surface of socket.

iii) Correct size and type of socket/ferrule/lug should be selected depending on size of conductor and type of connection to be made.

iv) Make the crimped joint by suitable crimping tool.

v) If after crimping the conductor in socket/lug, same portion of the conductor remains without insulation the same should be covered sufficiently with PVC tape.

c) **Dressing of Cable inside the Equipment**

After fixing of cable glands, the individual cores of cable shall be dressed and taken along the cableways (if provided) or shall be fixed to the panels with polyethylene straps. Cable shall be dressed in such a manner that small loop of each core is available inside the panel.

For motors of 20 HP and above, terminal box if found not suitable for proper dressing of an aluminium cables, the Contractor shall modify the same without any additional cost.

Cables inside the equipment shall be measured and paid for.

d) **Identification of Cables/Wires/Cores**: Power cables shall be identified with red, yellow & blue PVC tapes for trip circuits identification, additional red ferrules shall be used only in the particular cores of control cable at the termination points in the switchgear/control panels and control switches.

In case of control cables all cores shall be identified at both ends by their wire numbers by means of PVC ferrules or self-sticking cable markers, wire numbers shall be as per schematic/connection drawing. For power circuit also wire numbers shall be provided if required as per the drawings of switchgear manufacturer.

Testing of Cables

a) Before energising, the insulation resistance of every circuit shall be measured from phase to phase and from phase to ground. This requires 3 measurements if one side is grounded and 6 measurements for 3 phase circuits.

b) Where splices or terminations are required in circuits rated above 650 volts, measure insulation resistance of each length of cable before splicing and/or terminating. Report measurements after splices and/or terminations are complete.

c) DC High Voltage test shall be made after installation on the following:

   i) All 1100 Volts grade cables in which straight through joints have been made.

   ii) All cables above 1100 V grade.

For record purposes test data shall include the measured values of leakage current versus time.

The DC High Voltage test shall be performed as detailed below:

Cables shall be installed in final position with the entire straight through joints complete. Terminations shall be kept unfinished so that motors, switchgear, transformer etc. are not subjected to test voltage.
The test voltage and duration shall be as per relevant codes and practices of Indian Standards Institution.

Proforma for Testing Cables

Proforma - A
Date of Test

a) Drum No. from which cable taken
b) Cable from to
c) Length of run of this table metre
d) Insulation resistance test:

Voltage of Megger ..... Volts

i) between core-1 to earth..... Megaohm
ii) between core-2 to earth..... Megaohm
iii) between core-3 to earth..... Megaohm
iv) between core-1 to core-2..... Megaohm
v) between core-2 to core-3..... Megaohm
vi) between core-3 to core-1..... Megaohm

e) **Highvoltage test** **Voltage** **Duration**

i) between cores and earth

ii) between individual cores

Signature of Engineer-in-Charge

Signature of Contractor

Proforma - B

Cable Laying

(To be shown for each cable separately, voltage wise)

Date(s) of Test:.....

Voltage of Megger used:.....

Continuity of cores	IR value (mega ohm)	
	Before laying	Before back filling
	Between value	Between Value
1) From.....To.....PVC/XLPE.....x.....sq.mm LV/MV/HV cable.....m in length.		
R-N	R-N	
Y-N	Y-N	
B-N	B-N	
R-Y		R-Y
B-R		B-R
Y-B		Y-B
R-E		R-E
Y-E		Y-E
B-E		B-E

Signature of Engineer-in-Charge

Signature of Contractor

Proforma - C

Cable Jointing

(To be shown for each cable separately, voltage wise)

Date(s) of Test:.....

Voltage of Megger used:.....

	1	2	3
Number of Joint			

Location
Type of cable(s)
Type of joint (Indoor/Outdoor, straight through/termination, LV/MV/HV)

Insulation resistance (Mega ohm) before jointing

Cable I -	(a) Between	R & Y
		Y & B
		B & R
	(b) Between	R & N
		Y & N
		B & N
	(c) Between	R & E
		Y & E
		B & E
		N & E
Cable II -	(a) Between	R & Y
		Y & B
		B & R
	(b) Between	R & N
		Y & N
		B & N
	(c) Between	R & E
		Y & E
		B & E
		N & E

Insulation resistance (Mega ohm) of Jointed cable

Cable I -	(a) Between	R & Y
		Y & B
		B & R
	(b) Between	R & N
		Y & N
		B & N
	(c) Between	R & E
		Y & E
		B & E
		N & E

Signature of Engineer-in-Charge

Signature of Contractor

Proforma - D

Testing Before Commissioning

(a) Cable Work Date(s) of Test:.....

(i) Details of high Voltage test conducted

System of supply.....
Test Voltage applied.....kV.....Minutes
Result of test-Satisfactory/Unsatisfactory.

Voltage of Megger used:-
Result of Megger testing:-

Between	R & Y
	Y & B
	B & R
Between	R & N
	Y & N
	B & N
Between	R & E
	Y & E
	B & E
	N & E

Earthing

Scope

The scope of this section shall cover the following:

a) Earthing station
b) Earthing conductors
c) Earthing of equipment and installation

Standards

The following standards shall be applicable:

IS : 3043 COP for earthing

IS : 5216 Safety procedures & practice in electrical work

Earth Station

The earth station shall be made by excavating the ground to a depth as required and the excess earth after back filling shall be removed from site. Ground with rocky strata, the depth of excavation shall be less. However additional earthing stations or earth matting to be provided to achieve the system earthing less than one ohm.

Electrodes

Sufficient number of earth pits shall be provided and inter-connected so as to have the resistance of the earthing installations not more than 1 ohm. In case the soil resistivity is found to be very high, a high sensitive relay may be used to co-relate the relay setting with high earth resistance.

a) Various types of electrodes

i) Pipe electrode shall be buried in the ground vertically with its top at not less than 20 cm below the ground level. The installation shall be carried out as shown in the figure and as directed by the Engineer-in-charge.

ii) Plate electrode shall be buried in ground with its face vertical, and its top not less than 2 m below the ground level. The installation shall be carried out as directed by the Engineer-in-charge.

iii) a) The strip or conductor electrode shall be buried in trench not less than 0.5 m deep.

b) If conditions necessitate the use of more than one strip or conductor electrode, they shall be laid as widely distributed as possible, in a single straight trench where feasible, or preferably in a number of trenches radiating from one point or as directed by the Engineer-in-charge.

Earthing Conductor (Main earthing lead)

The earth conductors shall be fixed to the wall/columns etc at every 500 mm centres with 10 mm spacers. The total earthing system shall be mechanically and electrically connected to provide independent path to earth.

i) In the case of plate earth electrode, the earthing conductor shall be securely terminated on to the plate with two bolts, nuts, check nuts and washers.

ii) A double C-clamp arrangement shall be provided for terminating tape type earthing conductor with GI watering pipe coupled to the pipe earth electrode. Galvanised “C” shaped strips, bolts, washers, nuts and checknuts of adequate size shall be used for the purpose.

iii) The earthing conductor from the electrode upto the building shall be protected from mechanical injury by a medium class, minimum 15 mm dia. GI pipe in the case of wire, and by 40 mm dia. medium class GI pipe in the case of strip. The protection pipe in ground shall be buried atleast 30 cm deep to be increased to 60 cm in case of road crossing and pavements). The portion within the building shall

be recessed in walls and floors to adequate depth in due co-ordination with the building work.

iv) The earthing conductor shall be securely connected at the other end to the earth stud/earth bar provided on the switch board by bolt, nut and washer.

Earth bus and main earthing terminal

i) The Main Earth bus shall be laid as directed by the Engineer-in-charge.

ii) Following conductors shall be terminated into the main earthing terminal/earth bus.

a) Earth connection from the Sub station.
b) Earthing conductor from electrode.
c) Protective conductors;
d) Equi-potential bonding conductors.

Protective (Loop earthing/earth continuity) Conductor

i) Earth terminal of every switch board in the distribution system shall be bonded to the main earth bus.

ii) Two protective conductors shall be provided for a switchboard.

iii) A protective conductor shall securely connect the earth connector in every distribution board (DB) to the earth bus.

iv) All metallic switch boxes and regulator boxes in a circuit shall be connected to the earth connector in the DB by protective conductor.

v) The earth pin of socket outlets as well as metallic body of fan regulators shall be connected to the earth stud in switch boxes by protective conductor.

Marking

i) Earth bars/terminals at all switch boards shall be marked permanently, either as E or as
ii) Main earth terminal shall be marked “Safety Earth – Do Not Disconnect”.

Proforma for testing Earth Electrodes

i) Total number of earth electrodes.....
ii) Earth resistance of each earth electrode:

Sl.No.	Location	Value

Signature of Signature of

Engineer-in-Charge Contractor

9 Measurement

Quantities

The quantities set out in the Schedule of Requirements are the estimated quantities of the work, but they are not to be taken as the actual and exact quantities of the Work to be executed by the Contractor in fulfillment of his obligations under the Contract.

Works to be Measured

The Consultant/Client shall, except as otherwise stated, ascertain and determine by measurement the value in terms of the Contract of work done in accordance with the Contract. He shall, when he required any part or parts of the Work to be measured, give notice to the Contractor's authorised agent or representative, who shall forthwith attend or send a qualified agent to assist the Engineer in making such measurement, and shall furnish all particulars required by either of them. Should the Contractor not attend, or neglect or omit to send such agent, then the measurement made by the Engineer or agent approved by him shall be taken to be the correct measurement of the work. For the purpose of measuring such permanent work as is to be measured by records and drawings, the Consultant shall prepare records and drawing month by month of such work and the Contractor, as and when called upon to do so in writing, shall, within fourteen days, attend to examine and agree such records and drawings with the Consultant and shall sign the same when so agree such records and drawings, they shall be taken to be correct. If, after examination of such records and drawings the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor shall, within fourteen days of such examination, lodge with the Consultant, for decision by the Consultant, notice in writing of the respects in which such records and drawing are claimed by him to be incorrect.

Mode of Measurement

The Works shall be measured net, as prescribed in the specification of work, notwithstanding any general or local custom, except where otherwise specifically described or prescribed in the Contract. Wherever not specifically mentioned in the Contract, the mode of measurement as prescribed in the relevant IS codes shall be applicable and binding to the Contract. Only the latest editions of all the codes of practices including all latest official amendments and revisions shall be applicable.

Battery Limit

Scope of work includes:

1. Supply and Installation of metering panel with TOD meter.

2. Supply, installation, testing and commissioning of LT Panel Boards, MCB DBs, Light fixtures and fans, wiring and accessories and earthing system

3. Cable laying, termination at both ends, testing & commissioning of LT cables from nearest feeder to metering panel, from metering panel to DBs and various electrical loads.

4. Cable laying in buried route/ trenches/ trays as per specification, termination at both ends, testing and commissioning of LT power and control/ instrumentation cables, cables between switch boards and sub switch boards and various equipments in the building.

5. Wherever buried cables are envisaged, scope of work includes digging of earth along the cable route, filling up of sand protective covering as per specification, laying of cable, covering the cables with sand bricks, back filling of earth etc., as per specification. Installation of Hume pipes including excavation, erection, back filling etc. Cable markers shall be supplied and installed as per specification.

6. Supply and installation of light fittings, fan, sockets, DBs including necessary wiring as required.

7. Earthing system includes supply, installation and testing of earth pits and relevant earth conductors as per specification for metering panels, MCBDBs & pumps.

8. Civil work includes grouting of equipments including distribution boards, fixing of cable trays with all necessary supports etc.

9. The rates quoted for installation should include the charges for painting the conduits & supports as directed by Purchaser/Consultant.

10. Liaison with all statutory authorities including electricity board/inspectorate for getting sanction/approval/safety certificate/ power connection/power allocation including submission of necessary forms as required is included in the scope of this work.

** **

Annexure-1

PARTICULARS OF BIDDER

All individual firms or each of the partners of an organization submitting the tender must complete the information in this form.

1.	Full name of the Firm:	
2.	Head Office address:	
3.	Contact person name at Head office:	
4.	Telephone number/s:	
5.	Fax number/s:	
6	E-mail Id	
7.	Branch Office address if any:	
8.	Contact person name at Branch office:	
9.	Telephone number/s:	
10.	Fax number/s:	
11.	E-mail Id	
12.	Works address:	
13.	Contact person name at Works:	
14.	Telephone number/s:	
15.	Fax number/s:	
16.	E-mail Id	
17.	Place of Registration/ Incorporation:	
18.	Year of Registration/ Incorporation	

Signature & seal of the Bidder

Annexure – 2

TENDER FORM

(Note: - Bidders are required to fill up all the blank spaces in this Tender Form)

To,

The Chief Mechanical Engineer,
New Mangalore Port Authority,
Panambur, Mangalore – 575 010 India.

1. Having examined the Instructions to Bidders, Conditions of Contract, Specifications and Schedules attached to the Tender with Annexure and having satisfied ourselves of the site conditions for the Tender for **"Providing electrification to KK Gate at Wharf"** we the undersigned, offer to execute the Contract as per conditions of contract, at rates for items of work in the Schedule of items of work and rates attached herewith.
2. We further undertake, if our tender is accepted, to deposit within 21 days from the date of receipt of the letter of acceptance, Bank Guarantees to the extent of **10% (Ten percent**) of the contract price in the manner set forth in the GCC of tender.
3. We further undertake, if our tender is accepted, to enter into and execute within 14 days of our being called upon to do so, an Agreement in the form annexed and the conditions of contract with such modifications as are agreed upon.
4. Unless and until a formal agreement is prepared and executed, this tender together with your written acceptance thereof, shall constitute a binding contract between us.
5. We have submitted the Tender Fees, EMD/exemption for the same as per the instructions.
6. We further agree that in the event of our withdrawing the tender before the receipt of the final decision or in the event of our failing to deposit the Performance Security in such form as contained in the GCC of tender or in the event of our tender being accepted, fail to execute an agreement in the form aforesaid within 14 days or extended time thereafter from the date of receipt of letter of acceptance, we may be disqualified and debarred for a

period of three (3) years from participating for tenders at New Mangalore Port Authority duly informing the MSME authorities if applicable.

7. We agree that the payment shall be made direct to us by the Port Authority in Rupees.
8. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ Day of _____ in the capacity of _____ duly authorized to sign the Tender for and on behalf of

(IN BLOCK CAPITALS)

Signature:

Witness

Address:

Annexure - 3

FORM OF AGREEMENT

THIS AGREEMENT made at Mangalore this _____ day of _____ BETWEEN M/s. _____ (hereinafter called "the Contractor") which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include his heirs, executors, administrators successors and permitted assigns) of the one part and THE BOARD OF NEW MANGALORE PORT AUTHORITY, a body constituted under Major Port Authorities Act 2021 having its Office at Panambur, Mangaluru (herein after called "The Board") which expression shall unless excluded by or repugnant to the context or meaning hereof, be deemed to include their successors and assigns) of other part, WHEREAS the Board have accepted a tender by the Contractor for **"Providing electrification to KK Gate at Wharf"** vide work order No……dated…….

NOW THIS AGREEMENT WITNESSESTH AS FOLLOWS:

1. In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the conditions of Contract hereinafter referred to.
2. The following documents annexed herein shall be deemed to form and be read and construed as part of this Agreement, viz –
   a) The said tender
   b) The acceptance of tender
   c) The conditions of Contract
   d) The scope of work/specifications.
   e) The Price schedule and all other Annexures
   f) The Contractor's 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 to the Contractor as hereinafter mentioned the Contractor HEREBY COVENANT with the Board for **"Providing electrification to KK Gate at Wharf"** in conformity in all respects with the provision of the Contract.

4. The Board HEREBY COVENANT to pay to the Contractor in consideration of the work of **"Providing electrification to KK Gate at Wharf",** the Contract Price or and such other sum as may be payable at the time and in the manner prescribed by the Contract.

5. IN WITNESS WHEREOF the parties hereunto have set their hands and seals, the day and year first above written. This Agreement is assigned as CMEA...../2024-25 dated...../..../2024 and contains with.....pages in all.

Signed, sealed and delivered

by _____ for and on behalf of

(Contractor) Witness: 1.

COMPANY SEAL

2.

CHIEF MECHANICAL ENGINEER

For and On behalf of the NMPA

(Board)

Witness 1.

2.

Annexure – 4

FORMAT OF PERFORMANCE SECURITY DEPOSIT BANK GUARANTEE

1. In consideration of the Board of the New Mangalore Port Authority, a body constituted under Major Port Authorities Act 2021 (hereinafter called "The Board") which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and assigns has awarded the Contract for **"Providing electrification to KK Gate at Wharf"** vide Work Order No._____(hereinafter called 'the Contract') to M/s. "Name of the Contractor" (hereinafter called the 'Contractor') which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include his heirs, executives, administrators, successors and permitted assigns under the terms and conditions of the Contract, made between the Contractors and the Board, the Contractor is bound to submit a performance Guarantee of Rs.----- /-(Rupees-----) to Board, we the Corporation Bank, full address of the bank to be mentioned(hereinafter referred to as 'the Bank') at the request of the Contractors do hereby undertake to pay to the Board an amount not exceeding Rs._____/-(Rupees_____) against any loss or damage caused to or suffered or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said Contract.

2. We, _____ (Name of the Bank), do hereby undertake to pay Rs._____/-(Rupees_____) as the amounts due and payable under this guarantee without any demur, merely on a demand from the Board stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Board by reason of the Contractor's failure to perform the said Contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs._____/-(Rupees _____).

3. We, _____(Name of the Bank), undertake to pay to the Board any money so demanded notwithstanding any dispute or disputes raised by the Contractor in any suit or proceeding before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.
4. We, _____(Name of the Bank), further agree with the Board that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and it shall continue to be enforceable till all the dues of the Board under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till the Chief Mechanical Engineer of the said Board certified that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. Unless the demand or claim under this guarantee is made on us in writing on or before _____, we shall be discharged from all liabilities under this guarantee thereafter. This Guarantee will remain in force from the date hereof, i.e. till _____ and unless a demand or suit or action to enforce any claim under the guarantee is made within three months from the date of expiry of this guarantee, i.e. on or before _____,all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities under this guarantee thereafter PROVIDED, that the Bank shall at the request of the Board but at the cost of the Contractors, renew or extend this guarantee for such further period or periods as the Board may require from time to time.

5. We, _____(Name of the Bank), further agree with the Board that the Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend the time of performance by the said Contractors from time to time to postpone from any time or from time to time any of the powers exercisable by the Board against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the Contractors or for any forbearance, act or omission on the part of the Board or any indulgence shown by the Board to the Contractors or by any such matter or thing whatsoever which under the

law relating to sureties would but for this provision, have effect of so relieving us.

6. This Guarantee will remain valid for the entire period as agreed, even though there happens to be change in the constitution of the bank or that of the Contractor.

7. We, _____(Name of the Bank), lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.

8. Our liability under this Guarantee shall not exceed Rs._____/- (Rupees_____).

9. This Guarantee shall valid up to _____.

10. We, are liable to pay the guaranteed amount or any part thereof under this guarantee only & only if you serve us a written claim or demand on or before ----/-----/202 .

11. The Bank Guarantee is en-cashable at our _____ branch at Mangalore, Karnataka

Dated ---------- day of ----------2023

For

(Authorised Signatory/s)

(Name & Code No.)

(For and on behalf of Bank.)

Annexure - 5

Format for Declaration

(*To be executed on bidder's letter head*)

To

_____

Providing electrification to KK Gate at Wharf

Ref: _____

The undersigned, having studies the pre-qualification submission for the abovementioned project, hereby states:

(a) The information furnished in our bid is true and accurate to the best of my knowledge.

(b) That in case of being pre-qualified, we acknowledge that the Employer may invite us to participate in due time for the opening of Price cover of the tender on the basis of provisions made in the tender documents to follow.

(c) When the call for tenders is issued, if the legal, technical or financial conditions, or the contractual capacity of the firm or joint venture changes, we commit ourselves to inform you and acknowledge your sole right to review the pre-qualification made.

(d) We enclose all the required pre-qualification data format and all other documents and supplementary information required for the pre-qualification evaluation.

(e) We state that no changes have been made by us in the downloaded tender documents and also understand that in the event of any discrepancies observed, the printed tender document No._____ is full and final for all legal/contractual obligations (delete if not required).

(f) No conditions are incorporated in the Financial Bid. In case any conditions are specified in the Financial Bid, the Tender will be rejected summarily without making any further reference to the Bidder.

(g) We also state that we have not made any payment or illegal gratification to any person/authority connected with the bid process so as to influence the bid process and have not committed any offence under the PC Act in connection with the bid.

(h) We also undertake that, currently we don't have any litigation.

Date:

Place:

Name of the Applicant : _____

_____

Represented by (Name & capacity) _____

Annexure - 6

(To be executed on Non-Judicial Stamp Paper of Rs.100/-)

FORMAT OF POWER OF ATTORNEY (in original)

In favour of signatory/s to the Tender, duly authenticated by Notary Public.

POWER OF ATTORNEY IN FAVOUR OF ---------- (Name, Designation, Company name)

TO ALL TO WHOM THESE PRESENTS shall come, I, (Name & address of the authorized person to sub-delegate/delegate powers, delegated on him by the Board of Directors) do hereby sub-delegate/delegate, in terms of the powers delegated to me by the Board of Directors, ----------(name of the Co.) to Shri ---------- (name, designation & address of the Attorney) the following:

NOW KNOW YE AND THOSE PRESENTS that I, (Name & address of the authorized person to sub-delegate/delegate powers, delegated on him by the Board of Directors), do hereby authorize and empower Shri ---------- (name, designation & address of the Attorney) to do severally amongst others, for the purpose of carrying on our business, the following:

a) To represent lawfully the (name of the Co.) for obtaining bid/tender documents, prepare, sign, execute and submit tenders for execution of **"Providing electrification to KK Gate at Wharf".** Or any other works incidental to such works
b) To discuss the technical and financial matters, negotiate and accept prices and take decisions regarding terms and conditions and sign agreements and contracts and also to bind the (name of the Co.) to the arbitration clause included in the contract.
c) For all or any of the purposes here of to sign and deliver or otherwise execute such deed or deeds, transfer or transfers, endorsement or endorsements and to perform such other acts, matters, things as the Attorney shall consider requisite or advisable as full and effectively as the Company could do, if present and acting there.

I, (Name & address of the authorized person to sub-delegate/delegate powers, delegated on him by the Board of Directors) in terms of the powers delegated to me by the Board of Directors of (name of the Co.), do hereby agree that all acts, deeds and things done by the said Attorney by virtue of this power of attorney, shall be construed as acts, deeds and things done by the Company.

I, (Name & address of the authorized person to sub-delegate/delegate powers, delegated on him by the Board of Directors), further undertake to ratify and confirm whatever our said attorney shall do or cause to be done for the Company, the said Company, in the premises, by virtue of the powers hereby given.

WHEREAS, this sub-delegation is signed and delivered to Shri ---------- (name & designation of the Attorney), on this _____ day of _____, 20____ (Two thousand _____).

WHEREAS, even though this sub-delegation is signed on this _____ day of _____ 20_____ (Two thousand _____), will have effect from the date he signs and receives this delegation.

IN WITNESS WHEREOF, I, (Name & address of the authorized person to sub-delegate/delegate powers, delegated on him by the Board of Directors) has, this _____ day of _____ 20_____ (Two thousand _____) set my hands and subscribed my signature unto this instrument.

SIGNED AND DELIVERED ON

_____ BY

(Name of authorized person to delegate powers)

WITNESS:

SIGNED AND RECEIVED ON

_____ BY

(Name & designation of Attorney)

Annexure - 7

Bank Information for E-Payment

1	Name and full address of the Bidder	
2	Credit Account No. (Should be full 14 digit)	
3	Account type (SB or CA or OD)	
4	Name of the Bank	
5	Branch (Full address with Telephone No.)	
6	MICR code (should be 9 digit)	
7	Telephone/Mobile/Fax/ e-mail of the Bidder	**Telephone:**
		Mobile:
		e-mail:
8	**Xerox copy of a cheque should be enclosed**	
9	**PAN** (Xerox copy of **Permanent Account Number** shall be enclosed)	

Signature and seal of the Bidder

Annexure - 8

DISPUTES REVIEW BOARD AGREEMENT

(To be executed on Rs.100/- non-judicial Stamp Paper)

THIS AGREEMENT, made and entered into this Day of_____20_____ Between ("the Employer/ Board") and ("the Contractor"), and the Disputes Review Board ("the DR Board") consisting of One/three DR Board Members, (Members from either party, i.e contractor and Employer/ Board)

(1) .....

(2) .....

(3) .....

[Note Delete whatever is not applicable]

WITNESSETH, that

WHEREAS, the Employer/ Board and the Contractor have contracted for the execution of (Project name) (the "Contract") and WHEREAS, the contract provides for the establishment and operation of the DR Board NOW THEREFORE, the parties hereto agree as follows -

1. The parties agree to the establishment and operation of the DR Board in accordance with this DR Board Agreement.
2. Except for providing the services required hereunder, the DR Board Members should not give any advice to either party or to the Engineer or Engineer's Representative concerning conduct of the Works.

The DR Board Members

(a) shall have no financial interest in any party to the contract or the Engineer or Engineer's Representative, or a financial interest in the contract, except for payment for services on the DR Board_

(b) shall have had no previous employment by, or financial ties to, any party to the contract, or the Engineer or Engineer's Representative, except for fee based consulting services on other projects, all of which must be disclosed prior to appointment to the DR Board.

(c) shall have disclosed in writing to the parties prior to signature of this Agreement any and all recent or close professional or personal or personal relationships with any director, officer, or employee of any party to the contract, or the Engineer or Engineer's Representative, and any and all prior involvement in the project to which the contract relates;

(d) shall not, while a DR Board Member, be employed whether as a consultant or otherwise by either party to the contract, or the Engineer or Engineer's Representative, except as a DR Board Member.

(e) shall not, while a DR Board Member, engage in discussion or make any agreement with any party to the contract, or with the Engineer or Engineer's Representative, regarding employment whether as a consultant or otherwise either after the contract is completed or after services as a DR Board Member is completed;

(f) shall be and remain impartial and independent of the parties and shall disclose in writing to the Employer/ Board, the Contractor, the Engineer or Engineer's Representative, and one another any fact or circumstances which might be such to cause either the Port or the Contractor to question the continued existence of the impartiality and independence required of DR Board Members.

3 Except for its participation in the DR Board's activities as provided in the contract and in this Agreement none of the Employer/ Board, the Contractor, the Engineer or Engineer's Representative, and one a nother any fact or circumstances which might be such to cause either the Employer/ Board or the Contractor to question the continued existence of the impartiality and independence required of DR Board Members.

4 The Contractor shall

a) furnish to each DR Board Members one copy of all documents which the DR Board may request including contract documents, progress reports, variation orders, and other documents, pertinent to the performance of the Contract.

b) in co-operation with the Employer/ Board, co-ordinate the Site visits of the DR Board, including conference facilities and secretarial and copying services.

5. The DR Board shall serve throughout the operation of the contract. It shall begin operation following execution of this Agreement, and shall terminate its activities after issuance of the taking over Certificate and the DR Board's issuance of its Recommendations on all disputes referred to it.

6. DR Board Member, shall not assign or subcontract any of their work under this Agreement

7. The DR Board Members are independent and not employees or agents of either the Employer/ Board or the Contractor.

8. The DR Board Members are absolved of any personal or professional liability arising from the activities and the Recommendations of the DR Board.

9. Fees and expenses of the DR Board Member[s] shall be agreed to and shared equally by the Employer/ Board and the Contractor. If the DR Board requires special services, such as accounting, data research, and the like, both parties must agree and the costs shall be shared by them as mutually agreed.

10. DR Board Site visits:

a) The DR Board shall visit the Site and meet with representatives of the Employer/ Board and the Contractor and the Engineer or Engineer's Representative at regular intervals, at times of critical construction events, and at the written request of either party. The timing of Site visit failing agreement shall be fixed by the DR Board.

b) Site meetings shall consist of an informal discussion of the status of the construction of the works followed by an inspection of the works, both

attended by personnel from the Employer/ Board, the Contractor and the Engineer or Engineer's Representative.

c) If requested by either party or the DR Board, the Employer/ Board will prepare minutes of the meetings and circulate them for comments of the parties and the Engineer or Engineer's Representative.

11. Procedure for disputes referred to the DR Board :

a) If either party objects to any action or inaction of the other party or the Engineer or Engineer's Representative, the objecting party may file a written notice of Dispute to the other party with a copy to the Engineer or Engineer's Representative stating that it is given pursuant to Clause *[number]* and stating clearly and in detail the basis of the dispute.

b) The party receiving the notice of Dispute will consider it and respond in writing within 7 days after receipt.

c) This response shall be final and conclusive on the subject, unless a written

appeal to the response is filed with the responding party within 7 days of receiving the response. Both parties are encouraged to pursue the matter further to attempt to settle the dispute. When it appears that the dispute can not be resolved without the assistance of the DR Board either party may refer the dispute to the DR Board by written Request for Recommendation to the Board, the other party and the Engineer or Engineer's Representative stating that it is made pursuant to *(insert relevant clause no.).*

d) The Request for recommendation shall state clearly and in full detail the specific issues of the dispute to be considered by the DR Board.

e) When a dispute is referred to the DR Board, and the DR Board is satisfied that the dispute requires the DR Board's assistance, the DR Board shall decide when to conduct a hearing on the dispute. The DR Board may request that written documentation and arguments from both parties be submitted to each DR Board Members before the hearing begins. The parties shall submit insofar as possible agreed statements of the relevant facts

f) During the hearing, the Contractor, the Employer/ Board, and the Engineer or Engineer's Representative shall each have ample

opportunity to be heard and to offer evidence. The DR Board's Recommendations for resolution of the dispute will be given in writing, to the Employer/ Board, the Contractor and the Engineer or Engineer's Representative as soon as possible, and in any event not more than 28 days after the DR Board's final hearing on the dispute.

12 Conduct of Hearings:

a) normally hearing will be conducted at the Site, but any location that would be more convenient and still provide all required facilities and access to necessary documentation may be utilised by the DR Board. Private sessions of the DR Board may be held at any location convenient to the DR Board,

b) The Employer/ Board, the Engineer or Engineer's Representative and the Contractor shall have representatives at all hearings.

c) During the hearings, no DR Board Member shall express any opinion concerning the merit of any facet of the case.

d) After the hearing is concluded, the DR Board shall meet privately to formulate its Recommendations. All DR Board deliberations shall be conducted in private, with all individual views kept strictly confidential. The DR Board's Recommendations, together with an explanation of its reasoning shall be submitted in writing to both parties and to the Engineer or Engineer's Representative. The Recommendations shall be based on the pertinent contract provisions, applicable laws and regulations, and the facts and circumstances involved in the dispute.

The DR Board shall make every effort to reach a unanimous Recommendation. If this proves impossible, the majority shall decide and the dissenting member any prepare a written minority report for submission to both parties.

[Note: Delete if it is one member DR Board]

13. If during the contract period, the Employer/Board and the Contractor are of the opinion that the Dispute Review Board is not performing its functions properly, the Employer/Board and the Contractor may together disband the Disputes Review Board. In such an event, the disputes shall referred to Arbitration straightway.

The Employer / Board and the Contractor shall jointly sign a notice specifying that the DR Board shall stand disbanded with effect from the date specified in the notice. The notice shall be posted by a registered letter with AD or delivery of the letter, even if he refuses to do so.

Annexure - 9

DETAILS OF ONGOING CONTRACTS AT NMPA BEYOND 31.01.2024

Sl. no	Work Order Description	Work Order no. & date	Work Order Value	Department which has issued the Work order	Date of completion as per work order

Sign & Seal of the Contractor

Annexure-10

VERIFICATION OF LOCAL CONTENT

Tender no & Name of the work	**Bidder shall enter, the % of Local Content (%)**
Tender No. 13/KK Gate/EE(E)II/ 2024 dated 22.02.2024 **Providing electrification to KK Gate at Wharf**	

Sign & Seal of the Contractor

Annexure - 11

UNDERTAKING ON INDEMNIFICATION

We _____ (Bidders Name) hereby agree and undertake to indemnify, keep indemnifies, depended and hold harmless the NMPA and its Officers against all losses, penalties, costs and expenses, duties of any kind whatsoever which may arise on account of breach un-authorized act, fraud deed or any other acts of ours or any of our personnel. We hereby further agree and undertake to indemnify and keep indemnifies against any order passed by any executive, quasi judicial or judicial authority wherein the NMPA is compelled to obey the order which arise due to breach of contract by us.

We_____(Bidders name) shall indemnify, protect and defend at our own cost, New Mangalore Port Authority and its agents & employees from & against any/all actions, claims, losses or damages arising out of;

i. Any violation in course of execution of the contract of any legal provisions or any right of third parties.
ii. Failure to exercise the skill and care required for satisfactory execution of the contract.
iii. Shall indemnify NMPA against all claims for compensation by or on behalf of any workman employed by us in connection with the contract, for injury or death by accident under the Workman Compensation Act (Act VIII of 1923) as amended from time to time.

We_____(Bidders name) shall be responsible for all commissions and omissions on part of manpower engaged for the purpose. NMPA shall not be responsible in any manner whatsoever, in matters of injury/death/health etc. of our employees performing duties under the contract.

We _____(Bidders name) hereby undertake that ,

a. The workforce deployed under this contract will be provided with all the necessary safety gears and equipment for the job.
b. Bidder/deployed staffs will follow all the required safety procedures while executing the job.

Sign and Seal of the Bidder/ Bidders Authorized representative

Annexure - 12

INDEMNITY BOND

(To be furnished in Stamp paper not less than Rs.100 e-Stamp paper)

This deed of indemnity is executed by ..... herein after referred to as 'Indemnifier' which expression shall unless repugnant to the context or meaning thereof, include its successors, Administrator, representatives and assignees in favour of New Mangalore Port Authority, Panambur, Mangalore 575010, herein after referred to as 'Indemnified' which expression shall unless repugnant to the context or meaning thereof include its representatives and assignees witnesses as to.

Whereas the indemnified herein as awarded to the indemnifier herein a Tender/Contract or for supply of / Construction of ..... on terms and conditions set out interalia in the work order No..... valued at Rs.....

AND Whereas, the clauses No..... of the above mentioned work order provides for indemnifying the indemnified by the indemnifier for any accident, damage or compensation payable to any workmen or other person in the employment of the contractor or any sub contractor during the period of tender/contract.

AND Whereas, the Indemnifier hereby irrevocably agrees to indemnify the indemnified against all damages or compensation payable at law in respect of or in consequence of any accident or injury to any workmen or other person in the employment of the contractor or sub-contractor against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto and the indemnified shall be at liberty to deduct or adjust from the bills payable to the indemnifier by the indemnified for an amount that the indemnified may be called upon to pay towards claims, demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation to any accident or injury referred to above without any reference to the indemnifier.

The Indemnifier shall comply with all the Central State and Muncipal Laws and Rules and shall be solely responsible for complying with the provisions of the Contract Labour (Regulations & Abolition) Act, 1970 & the contract labour (Regulation & Abolition) Karnataka Rules 1974 and rules there under and the enactments that may be applicable including ESI Act, the payment of wages act, Provident Fund Act, the Minimum Wages Act, the Factory's Act, the Workmen Compensation Act or any other applicable legislation and the Muncipal by-laws or other statutory Rules and Regulations whatsoever in force if these are applicable. Any obligations finding or otherwise missed under any statutory

enactments rules & regulations there under shall be the responsibility of the Indemnifier and the Indemnified will have no responsibility for the same. The Indemnifier shall obtain Workmen's Compensation Policy for his workers, who are not covered under ESI and submit the same to the ESIC immediately after commencement of the work.

The Indemnifier is liable to pay all Statutory Compensation to the Labourers / persons engaged by him for the satisfactory execution of the works. If any claim is made against Indemnified arising out of this work, the Port shall have the right to deduct the same from the bill amount payable to the Indemnifier after verification of the validity and if admissible as per rules.

The Indemnifier shall ensure the use of PPE such as helmets, safety shoes, nose masks, hand gloves, safety harness or any other equipment as required depending on nature of work by his staff at site.

In addition to complying of the above, the Indemnifier hereby undertakes to indemnify the indemnified against any unforeseen incidents / accidents, which may lead to fatality including death, permanent/ partial disablement, injury, financial loss, legal issues or any other etc of the labourers / workmen's/ staffs of the contractor / sub-contractor for which the indemnified and its officers / representation are in no way responsible.

For…….

INDEMINIFIER

(Signature with Name and Designation)

Company Seal

Station:

Date:

Witness:

1…….

Signature with Name, Designation & Address

2…….

Signature with Name, Designation & Address

Annexure - 13

Bid Security Declaration Form

Tender No. 13/KK Gate/EE(E)II/2024 Dated: . .2024

To,

The Executive Engineer (Ele)-II,
NMPA, Panambur, Mangaluru.

Sub: E-tender for Providing electrification to KK Gate at Wharf.

I/We. The under signed, declare that:

I/We understand that, according to tender conditions, bids must be supported by a Bid Securing Declaration.
I/We accept that I/We may be disqualified from bidding for any contract with NMPA for a period of three (3) year from the date of notification if, I am/ We

a. Are in a breach of any obligation under the bid conditions,
b. made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements;
c. If the bid is withdrawn or varied or modified in a manner not acceptable to the Employer during the validity or extended validity period duly agreed by the Bidder
d. Any effort by the Bidder to influence the Employer on bid evaluation, bid comparison or contract award decision.
e. Fail to commence the work on the specified date as per LOA/Work order and/or.
f. Sign the Agreement AND/OR furnish the required Performance security.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder;or(ii)thirty days after the expiration of the validity of my/our Bid.
Signed: (insert signature of person whose name and capacity are shown)

In the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration) Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder) Dated on _____day of _____(insert date of signing) Corporate Seal (where appropriate)

PART-III

BILL OF QUANTITIES

Tender No: 13/KK Gate/EE(E)II/2024 **Dated:** 22/02/2024

Name of Work: Providing electrification to KK Gate at Wharf.

S. No.	Item Description	Qty	Unit	Rate(Rs)	Amount (Rs.)
	METERING BOARD				
1	Supply, installation, testing and commissioning of Outdoor type metering panel, including supply and accommodating CT operated TOD meter and 100A FP,25kA MCCB with earth fault release in separate chamber, Inter connections etc. as required and necessary supports to be fabricated out of 14 SWG CRCA sheet with lockable door with scaling facility having glass window for energy meter top canopy weather proof enclosure (IP-54) and necessary overhang, undergone seven tank process powder coated finish and all mounting accessories as required the panel shall be with all accessories as per drawing & specification.	01	No		
2	Supply, Installation, Testing and Commissioning of 5 KVA, single phase input, single phase output, true on-line UPS system with 30 minutes back up, output isolation transformer including all accessories. SMF batteries VRLA type with powder coated CRCA cabinet including all accessories such as cabling etc. as require complete having following specification. The Ups system consist of one number of UPS unit and one set of battery bank fully digital controlled based on DSP power factor from end 0.9. Pure sine wave output voltage & frequency regulation Auto regulation of battery end voltage Intelligent interface with LED/LCD display static bypass switch/ manual by pass switch Auto temperature compensation	1	No		
3	Supply, Installation, Testing and Commissioning of 3 KVA, single phase input single phase output, true on-line UPS system with 30 minutes back up, output isolation transformer including all accessories. SMF batteries VRLA type	2	Nos		

	with powder coated CRCA cabinet including all accessories such as cabling etc. as require complete having following specification. The Ups system consist of one number of UPS unit and one set of battery bank fully digital controlled based on DSP power factor from end 0.9. Pure sine wave output voltage & frequency regulation Auto regulation of battery end voltage Intelligent interface with LED/LCD display static bypass switch/ manual by pass switch Auto temperature compensation.				
	CABLES AND CABLING.				
4	Supply of 3.5C x 185 Sq.mm size1.1 KV grade XLPE insulated, PVC sheathed, armoured Aluminium conductor cable conforming to IS 7098 (Part 1) amended upto date	180	Mtrs		
5	Supply of 3.5C x 70 Sq.mm size 1.1 KV grade XLPE insulated, PVC sheathed, armoured Aluminium conductorcable conforming to IS 7098 (Part 1) amended up to date.	84	Mtrs		
6	Supply of 4C x 16 Sq.mm size 1.1KV grade XLPE insulated, PVC sheathed, armoured Aluminium conductor cable conforming to IS 7098 (Part 1) amended upto date.	108	Mtrs		
7	Supply of 4C x 4 Sq.mm size 1.1 KV grade XLPE insulated, PVC sheathed, armoured copper conductor cable conforming 186to IS 7098 (Part 1) amended upto date.	114	Mtrs		
8	Supply of 2C x 4 sqmm size 1.1 KV grade XLPE insulated, PVC sheathed, armoured copper conductor cable conforming to IS 7098 (Part 1) amended upto date.	426	Mtrs		
9	Supplying and making end termination with brass compression gland and aluminium lugs for 3.5C x 185 Sq.mm size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.	2	Nos		
10	Supplying and making end terminationwith brass compression gland and aluminium lugs for following 3.5C x 70 Sq.mm size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.	2	Nos		

11	Supplying and making end termination with brass compression gland and aluminium lugs for following 4C x 16 Sq.mm size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required	4	Nos		
12	Supplying and making end termination with brass compression gland and copper lugs for following 4C x 4 Sq.mm size of PVC insulated and PVC sheathed/ XLPE copper conductor cable of 1.1 KV grade as required.	4	Nos		
13	Supplying and making end termination with brass compression gland and copper lugs for following 2C x 4 sq.mm size of PVC insulated and PVC sheathed / XLPE copper conductor cable of 1.1 KV grade as required.	42	Nos		
14	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following upto 35 sq. mm (clamped with 1mm thicksaddle) size on wall or surface as required.	85	Mtrs		
15	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following Above 35 sq. mm and upto 95 sq. mm (clamped with 1mm thick saddle) size onwall or surface as required.	10	Mtrs		
16	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following Above 95 sq. mm and upto 185sq. mm (clamped with 1mm thick saddle)size on wall or surface as required.	10	Mtrs		
17	Laying of one number PVC insulated and PVC sheathed armoured power cable of 1.1KV grade for the following upto 35sq mm size in ground including excavation, sand cushioning providing protective covering and refilling the trench etc. As required	124	Mtrs		
18	Laying of one number PVC insulated andPVC sheathed armoured power cable of 1.1KV grade for the following Above 35 sq mm and upto 95mm size in ground including excavation, sand cushioning providing protective covering and refilling the trench etc., as required	45	Mtrs		
19	Laying of one number PVC insulated andPVC sheathed armoured power cable of 1.1KV grade for the following Above 95sq mm and	110	Mtrs		

	upto 185sq mm sizes in ground including excavation, sand cushioning providing protective covering and refilling the trench etc., as required				
20	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following 35sq mm size direct in ground in the same trench in tier horizontal formation including excavation, sand cushioning providing protective covering and refilling the trench etc., as required	32	Mtrs		
21	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1KV grade of following upto 35 sq. mm sizein the existing RCC/ HUME/ METAL pipe as required	392	Mtrs		
22	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1KV grade of following above 35 sq. mm and up to 95 sq. mm size in the existing RCC/ HUME/ METAL pipe as required.	25	Mtrs		
23	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1KV grade of following above 95 sq mm size and up to 185 sq mm size in the existing RCC/ HUME/ METAL pipe asrequired	5	Mtrs		
24	Laying and fixing of one number PVC insulated and PVC sheathed/ XLPE power cable of 1.1 KV grade of following Up to 35sq.mm (clamped with 1mm thick saddle) size on cable tray as required.	15	Mtrs		
25	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following above 35 sq. mm and upto 95 sq. mm (clamped with 1mm thick saddle) size on cable tray as required.	5	Mtrs		
26	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following above 95 sq. mm and up to 185 sq. mm (clamped with 1mm thick saddle) size on cable tray as required.	5	Mtrs		

27	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1 KV grade of following Above 35 sq. mm size in the existing masonry open duct as required.	30	Mtrs		
28	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1 KV grade of following Above 35 sq. mmand up to 95 sq. mm size in the existingmasonry open duct as required	30	Mtrs		
29	Laying of one number PVC insulated andPVC sheathed / XLPE power cable of 1.1KV grade of following above 95 sq. mm and up to 185 sq. mm size in the existingmasonry open duct as required.	70	Mtrs		
30	Providing, laying and fixing following 50 mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc. as required	30	Mtrs		
31	Providing, laying and fixing following 100 mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc. as required	15	Mtrs		
32	Fabrication, supply and installation of following 150 MM WIDTH X 50 MM DEPTH X 2MM THICK size of perforated GI cable tray including horizontal and vertical reducer's tees, cross members and other accessories as required and duly suspended from ceiling with MS suspenders and painting etc. required.	10	Mtrs		
33	Providing, laying and fixing following 100 mm dia RCC pipe NP2 class (light duty) inground complete with RCC collars, jointing with cement mortar 1:2 (1 Cement : 2 fine Sand) including trenching (75 cm deep) and refilling etc., as required.	10	Mtrs		
34	Supply, fabricating and installing MS items such as Tees/ angles/ channels etc. on floor/ ceiling/ wall including necessary civil work such as grouting finishing etc. and painting with two coats of primer and two coats of synthetic enamel paint as required	150	K.G.		
35	Supply of ISI marked HDPE pipes with following 110 mm dia (OD) size of 10 kg/cm^2 conforming to as per IS4984,1985 PE-100 including all fittings and specials such as	15	Mtrs		

	tees, elbows, bends reducers, end caps complete so as to withstand the internal design pressure of 10kg/cm^2 as directed by engineer – in-charge				
36	Providing and laying 450 mm dia RCC pipe Non Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/s pigot jointed with stiff mixture of cement mortar in the proportion of 1:2 including testing of joint of joints etc. complete	100	Mtrs		
37	Supplying and fixing cable route markerwith 10 cm x 10 cm x 5 mm thick G.I. plate with inscription there on, bolted/welded to 35mm x 35mm x 6mm angleiron, 60 cm long and fixing the same in ground as required.	25	Nos		
	WIRING AND ACCESSORIES				
38	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch modular plate suitable GI box and earthing the point with 1.5sq mm FRLSPVC insulated copper conductor single core cable etc., as required (NOTE: the total distance from the switch box to the point will not exceed 5mtr, incase if length increase above 5 meters the wiring shall be measured under items 41)	101	Nos		
39	Group controlled light point with 1.5 sq. mm wire - Wiring for Group controlled lightpoint (from one point to another point) with 3x1.5 sq mm PVC insulated (FRLS) copper conductors cable in surface / recessed mounted rigid medium class 20mm PVC conduit with all accessories as required (NOTE: this item does not include the cost of MCB or 16Amp/6Amps one way switches the total distance from one point to another point will not exceed 5 meters. Incase if the total length increase, the additional length shall be measured under items 41 the distance from DB to 1st point will be measured under point circuit wiring.	65	Nos		

40	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit, 2way modular switch modular plate suitable GI BOX AND EARTHING THE POINT WITH 1.5 SQ MM FRLS PVC insulated copper conductors single core cable etc. as required (NOTE: the total distance from switch box to the point will not exceed 5 mtrs incase if length increases above 5 meters, the wiring shall be measured under items 41	10	Nos		
41	Circuit wiring - Wiring for circuit/ submain wiring along with earth wire with the following 2 x 1.5 sq. mm + 1 x 1.5 sq.mm earth wire sizes of FRLS PVC insulated copper conductors single core cable in surface/ recessed medium class PVC conduit as required	1067	Mtrs		
42	Circuit wiring - Wiring for circuit/ sub main wiring along with earth wire with the following 2 x 2.5 sq. mm + 1 x 2.5 sq.mm earth wire sizes of FRLS PVC insulated copper conductors single core cable in surface / recessed medium class PVC conduit as required	995	Mtrs		
43	Circuit wiring - Wiring for circuit/sub main wiring along with earth wire with the following 2 x 4 sq. mm + 1 x 4 sq.mm earth wire sizes of FRLS PVC insulated copper conductors single core cable in surface / recessed medium class PVC conduit as required	1280	Mtrs		
44	Circuit wiring - Wiring for circuit / sub main wiring along with earth wire with the following 2 x 1.5 sq. mm + 1 x 1.5 sq.mm	150	Mtrs		
45	Circuit wiring -Wiring for circuit / sub mainwiring along with earth wire with the following 2 x 2.5 sq. mm + 1 x 2.5 sq.mm earth wire sizes of FRLS PVC insulated copper conductors single core cable in surface / recessed medium class PVC conduit as required	100	Mtrs		
46	Supplying and fixing following 6 pin 15/16 amp socket outlet with modular plate & cover on surface or in recess, including providing and fixing suitable size GI box, inter connection etc. as required complete.	16	Nos		

47	Supplying and fixing following 15/16 amp switch with modular plate & cover on surface or in recess, including proving and fixing suitable size GI box, inter connectionetc. as required complete.	16	Nos		
48	Supplying and fixing following Telephone socket outlet with modular plate & cover on surface or in recess, including providing and fixing suitable size GI box, inter connection etc. as required complete.	14	Nos		
49	Supplying and fixing following Bell push with modular plate & cover on surface or in recess, including providing and fixing suitable size GI box, inter connection etc. asrequired complete.	2	Nos		
50	Supplying and fixing call bell / buzzer suitable for single phase, 230 volts, complete as required	2	Nos		
51	Supplying and fixing suitable size GI boxwith modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modularswitch, connection etc. as required.	20	Nos		
52	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6pin 5/6 & 15/16 amps modular switch connection etc. as required	55	Nos		
53	Supply & fixing Computer points with 3 Nos 3 pin 5/6A socket with 2No. 5/6A switch with modular front plate and cover surface/recess including providing and fixing suitable size GI boxes, its interconnections etc. as required complete. (NOTE: 2 Nos 5/6A sockets fixed at 60cm above with 1 No 5/6 A sockets at 1m above FFL)	14	Nos		
54	Supply, fixing of Network point, UTP RJ45, CAT 6 modular type socket with modular plate & cover on surface or in recess, including proving and fixing suitable size GI box, inter connection etc. as required complete.	14	Nos		
55	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	25	Nos		
56	Supplying and fixing of following 20 mm sizes of medium class PVC conduit along with	50	Mtrs		

	accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
57	Supplying and fixing of following 25mm sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	40	Mtrs		
58	Supplying and fixing of following 32 mm sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making goodthe same in case of recessed conduit as required.	40	Mtrs		
59	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps "C" curve SP. MCB, in sheet steel enclosure on surface or in recess with chained metal cover for socket out let and complete with connection testing and commissioning etc. as required	2	Nos		
60	Supplying and fixing of following 20 mm sizes of medium class PVC conduit along with accessories in surface/recess making chases in wall including making good by applying Renderoc S2 as per manufacturers specification and finishing with putty, 1 coat primer and 2 coats acrylic emulsion paint to match the surface	130	Nos		
61	Supplying and fixing of following 25 mm sizes of medium class PVC conduit along with accessories in surface / recess making chases in wall including making good by applying Renderoc S2 as per manufacturers specification and finishing with putty, 1 coat primer and 2 coats acrylic emulsion paint to match the surface	100	Mtrs		
62	Dismantling of following medium class PVC conduit along with wiring accessories in surface making good by applying Renderoc S2 as per manufacturers specification and finishing with putty, 1 coat primer and 2	150	Mtrs		

	coats acrylic emulsion paint to match the surface				
	MCBs and MCB DISTRIBUTION BOARDS				
63	Supplying and fixing following 6 way (4+18), Double door surface / recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel dust protected, duly powder painted inclusive of 200 amps tinned copper bus bar, common neutral link earth bar din bar for mounting MCBs with provision of 100/125Amps FP 16 KA MCCB as incomer interconnection between incomer MCCB and bus bars (but without MCB's/ MCCB) as required. (NOTE: vertical type MCB TPDB is normally used where 3 phase outlets are required)	1	No		
64	Supplying and fixing following 8 way (8+18), Double door, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volt, on surface/ recess, complete with tinned copper bus bar, common neutral link earth bar din bar powder painted including earthing etc. as required (but without MCB/ RCCB/isolator)	2	Nos		
65	Supplying and fixing following 16way, Double door, single pole and neutral, sheet steel, MCB distribution board, 240 volt, on surface/recess, complete with tinned copper bus bar, common neutral link earth bar din bar powder painted including earthing etc. as required (but without MCB/RCCB/isolator)	4	Nos		
66	Supply and fixing of following 2 pole 25 amps. (415 Volts), 30mA sensitivity. Rating residual current circuit breaker with MCB having earth leakage and overload protection (RCCB+MCB) as per specification as required	4	Nos		
67	Supply and fixing of following 4 pole 40 amps, (415 Volts), 30mA sensitivity rating residual current circuit breaker with MCB having earth leakage and overload protection (RCCB+MCB) as per specification as required	2	Nos		
68	Supply and fixing of 6A to 32A, SP, B/C-CURVE following rating, 10 KA, Miniature Circuit Breakers as required.	62	Nos		

69	Supply and fixing of 6A to 32A, TP, B/C-CURVE following rating, 10 KA, Miniature Circuit Breakers as required.	2	Nos		
70	Supply and fixing of 6A to 32A, SP, D - CURVE following rating, 10 KA, Miniature Circuit Breakers as required.	32	Nos		
71	Supply and fixing of 40A to 63A, TP, B/C-CURVE following rating, 10 KA, Miniature Circuit Breakers as required.	3	Nos		
72	Supply, Installation, Testing & Commissioning of 25A DP isolator in 1.6mm thick sheet steel enclosure duly painted with powder coated finishing on surface including all the mounting accessories, internal wiring etc. as required complete.	6	Nos		
73	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	24	Nos		
74	Providing and fixing following 100 Amp, MCCB rating and 25 kA breaking capacity and FP pole MCCB in existing distribution board, making connections, etc. asrequired	1	No		
75	Supply, installation, testing and commissioning of DOL starter upto 3HP, 1p motors including axillary contactors, push buttons and all necessary accessories as required complete. The starter enclose shall be made of powder coated 1.6mm CRCA sheet	4	Nos		
	LIGHT FIXTURES AND FANS				
76	Supply of indoor decorative surface mounted LED Batten with Polycarbonate diffuser along with driver, system wattage of maximum 20 watts lumens output of luminaire greater than 2000, power factor > 0.9, rated life of L70 @ 25000 hours, system efficacy > 100 lumens/watt and including all the necessary accessories as required complete	12	Nos		
77	Supply of LED recess mounted down light made of die cast aluminium, along with driver, system maximum wattage of maximum 12 watts with lumens output of luminaire greater than 1200, power factor > 0.95, THD<10%, rated life of L70 @ 50000 hours, system efficacy > 100 lumens/watt and including all the necessary accessories as required complete	9	Nos		
78	Supply of LED surface mounted down light made of die cast aluminium, along with driver, system maximum wattage of 12	14	Nos		

	Watts with lumen output of luminaire greater than or equal to 1200 lumens,power factor > 0.95, THD<10%, rated life of L70 @ 50000 hours, system efficacy > 100 lumens per watt and including all the necessary accessories as required complete				
79	Supply of LED recess mounted down light made of die cast aluminium, along with driver, system maximum wattage of 15Watts with lumen output of luminaire greater than or equal to 1500 lumens, power factor > 0.95, THD<10%, rated life of L70 @ 50000 hours, system efficacy > 90 lumens per watt and including all the necessary accessories as required complete	19	Nos		
80	Supply of LED surface mounted down light made of die cast aluminium, along with driver, system maximum wattage of 15Watts with lumen output of luminaire greater than or equal to 1500 lumens, power factor > 0.95, THD < 10%, rated life of L70 @ 50000 hours, system efficacy > 90 lumens per watt and including all the necessary accessories as required complete	39	Nos		
81	Supply of recess mounted LED panel light fixture light made of die cast aluminium with corrosion resistance powder coating and with proper diffusers along with driver, system wattage of 36 watts with lumen output of fixture > or = to 3600 lumens, power factor > 0.95, THD<10%, rated life of L70 @50000 hours, system efficacy > 100 lumens per watt and including all the necessary accessories as required complete	12	Nos		
82	Supply of surface mounted LED panel light fixture light made of die cast aluminium with corrosion resistance powder coating and with proper diffusers along with driver, system wattage of 36 watts with lumen output of fixture > or = to 3600 lumens, power factor > 0.95, THD < 10%, rated life of L70 @ 50000 hours, system efficacy > 100 lumens/watt and including all the necessary accessories as required complete	20	Nos		
83	Supply of LED high bay Lighting luminaire of, pressure die cast aluminium housing body with optimal heat sink, with system wattage of maximum 80 W with rated life of L70 @ 50,000 hours, CRI greater than or equal to 70 & with system lumens greater than 8800 and system efficacy > or = 95%	4	Nos		

84	Supply of LED high bay Lighting luminaire of, pressure die cast aluminium housing body with optimal heat sink, with system wattage of maximum 200 W with rated life of L70 @ 50,000 hours, CRI greater than or equal to 70 & with system lumens greater than 22000 and system efficacy > or = 95%	8	Nos		
85	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less direct current (BLDC) motor, class of insulation: B, 3 Nos blades 30cm long down rod 2nos canopies, shackle kit safety rope, copper winding, power factor not less than 0.9, service value (CMM/W) minimum 6.85, air delivery minimum 215 CMM 350 RPM (tolerance as per IS : 374-2019), THD < 10% remote or electronic regulator unit for speed controller and all remaining accessories including safety pin, nut bolts washers temperature rise = 75 degree C (max) insulation resistance more than 2 M ohm suitable for 230 volt 50 hz single phase AC supply, earthing etc. complete as required	14	Nos		
86	Supply of 250 mm sweep, 900 rpm light duty exhaust fan in plastic body with self-opening louvers working on 230 V AC supply complete with all accessories as required	15	Nos		
87	Supply of 10W LED Bulkhead fitting with die cast aluminium housing, PC diffuser and IP66 Protection suitable for operation on 230 Volt 50 Hz AC WALL / ceiling including giving connections with required length of 16/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire and making good the surface as required	8	Nos		
88	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting/LED Fitting of all types, complete with all accessories and tube etc., directly on ceiling /wall including connections with 1.5 sq mm FRLS PVC insulated copper conductor single core cable and earthing etc., as required	85	Nos		

89	Installation, testing and commissioning of exhaust fan upto 450mm sweep in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connections, testing & commissioning etc. as required	15	Nos		
90	Installation, testing and commissioning of High bay/Mid bay/LED/ FLOOD type fittings on wall/Column/truss/false ceiling using suitable MS clamps / nuts bolts/20mm heavy duty GI chain/pipe (upto 50cm) etc., including connection with 3C x 2.5 sq mm pvc insulated flexible copper conductors as required	12	Nos		
91	Installation, testing and commissioning of LED down lighter fittings on false ceiling with all mounting accessories as required complete including interconnections using 3 core 1.5sqmm FRLS PVC insulated flexible copper conductor as required.	40	Nos		
92	Installation, testing and commissioning of LED PANEL type fittings with GI chain and 2x2 adapter - with all accessories etc., on false ceiling including supplying and fixing of GI chain and 2x2 adaptor hook arrangement, up to 60cm length, wiring 3 runs of 1.5sq mm FRLS PVC insulated stranded copper conductor cable as required.	12	Nos		
93	Supply, installation and testing of IP65 LED UP DOWN luminaire made with die cast aluminium body with mounting bracket, the item includes LED module along with driver of approved make each with maximum system wattage of 6+/-2 watt system efficacy shall be greater than 90 Lm/W, power factor > 0.9 of L70 @ 50000 hours, CCT 3000 K, with CRI >= 80, beam angle 45 +/ -2 degree pre wired with all the necessary accessories and interconnection as required.	10	Nos		
94	Numbering of ceiling fan / exhaust fan/ fluorescent fitting as required.	184	Nos		
	EARTHING AND SAFETY EQUIPMENTS				
95	Earthing with G.I. earth pipe 3 meter long, 100 mm dia including accessories, and providing masonry enclosure with heavy duty GI cover plate of 300x300 mm having locking arrangement and watering pipe etc. with	11	Nos		

	64kg charcoal /coke and 5kg salt as required. (As per IS : 3043 amended up to date)				
96	Providing and fixing 25mm x 6mm GI stripon surface or in recess for connections etc., as required.	70	Mtrs		
97	Providing and fixing 3.15mm Cu (10 SWG) wire on surface or in recess for connections etc., as required.	180	Mtrs		
98	Supplying and laying 25mm x 6mm GI strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with G.I nut bolt, spring washer etc. as required. Jointing shall be done by over lapping 2 sets of G.I nut bolt spring washer spaced at 50mm)	140	Mtrs		
99	Supplying and laying 3.15mm Cu (10 SWG) wire at 0.50 meter below ground as strip earth electrode, including connection / terminating with G.I nut bolt, spring washer etc. as required. Jointing shall be done by overlapping 2 sets of G.I nut bolt spring washer spaced at 50mm)	80	Mtrs		
	LIGHTNING PROTECTION				
100	Supply and fixing of 8mm Aluminum Round Conductor as horizontal air terminal for parapet wall/terrace with the required mounting clamps, cross connectors, expansion piece and other accessories required as per IEC 62305-3	390	Mtrs		
101	Supply and fixing of 8mm Aluminum Round Conductor as down conductor with the required mounting clamps, cross connectors, expansion piece and other accessories required as per IEC 62305-3	144	Mtrs		
102	Providing and Fixing of Test Joint, suitable to fix 8mm Aluminium conductor to 32 x 6 GI strip	6	Set		
103	Providing and laying GI tape 32mm x 6mm thick from earth electrode directly in ground as required	180	Mtrs		
	PROVISION FOR CCTV SYSTEM				
104	Supply, Fixing, Testing and commissioningof following 25 mm sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	70	Mtrs		

105	Providing, laying and fixing following 50 mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75cm deep) and re-filling etc., as required	15	Mtrs		
	PROVISION FOR RFID AND VHF SYSTEMS				
106	Supply, Fixing, Testing and commissioning of following 25 mm sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	100	Mtrs		
107	Providing, laying and fixing following 50 mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75cm deep) and re-filling etc., as required	15	Mtrs		
				Total	
				GST(%)	

Note: 1. Applicable GST shall be mentioned separately.
2. L1 will be considered based on **BOQ** exclusive of GST.

PART- IV

NMPA BANK DETAILS

Name of the Payee:

The FA & CAO, NMPA, Panambur, Mangaluru for remitting Tender fee through NEFT / RTGS.

1	Name of the bank	State Bank of India, Panambur, Mangaluru -575 010
2	Bank Account No.	10205649448
3	IFSC Code.	SBIN0002249
4	MICR Code.	575002011

PART – V

CHECK LIST

Tender No: 13/KK Gate/EE(E)II/2024 Dated: 22/02/2024

SCHEDULE FOR CHECKLIST OF DOCUMENTS TO BE UPLOADED ALONG WITH TECHNO-COMMERCIAL BID

DETAILS OF DOCUMENT TO BE SUBMITTED			YES	NO
TECHNICAL BID	1	EMD & Tender fee or supporting document for exemption of EMD /Tender Fee as per clause 2.2.1 (n)		
	2	Supporting documentary evidence of work orders and satisfactory completion certificate issued by the client duly self-attested and TDS certificate of the supporting work.		
	3	Copies of Profit and Loss Account statements, balance sheet and Auditor's report for the last three years, endorsed by Chartered Accountant with attestation.		
	4	Certificates: a) Valid Electrical Contract License b) GST, ESI & PF Registration Certificate. c) PAN card copy		
	5	Tender Document, sealed and signed by the bidder along with Pre-bid replies, Corrigendum/Addendums if any.		
	6	a) Annexure - 1 - Particulars of Bidder. b) Annexure - 2 - Tender Form c) Annexure - 5 - Format of Declaration d) Annexure - 6 - Power of Attorney e) Annexure - 7 - Bank information for E-payment f) Annexure - 8 - Dispute review Board agreement g) Annexure - 9 - Details of ongoing Contracts at NMPA h) Annexure - 10 - Verification of Local Content i) Annexure - 11 - Undertaking on indemnification j) Annexure -12 - Indemnity Bond k) Annexure - 13 - Bid Security Declaration		
PRICE Bid		PART-III - Price Schedule (Online Mode Only)		