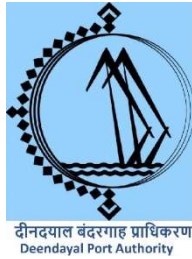


**“Providing 11 KV HT Power Supply at berth No. II & IX & Berth  
No. 13 to 16 for new HMCs”**

**DEENDAYAL PORT AUTHORITY**



**MECHANICAL ENGINEERING DEPARTMENT**

**ELECTRICAL DIVISION**

**TENDER NO. EL/AC/2755**

Superintending Engineer (Electrical)

Electrical Division

Deendayal Port

Authority 6, Ground

Floor,

Port & Custom Building,

New Kandla – 370 210.

Phone No. (02836) 270209/270342

Fax No. (02836) 270184/271010

# **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs”**

## **CONTENTS OF TENDER DOCUMENT**

- **Bid Reference No. EL/AC/2755**
- **NIT : Invitation for Bids**
- **SECTION I : Instruction to Bidders**
- **SECTION II : General Conditions of Contract**
- **SECTION III : Special Conditions of Contract**
- **SECTION IV : Forms of Bid**
- **SECTION V : Scope of Work & Technical Specifications**
- **SECTION VI : Bill of Quantities**
- **SECTION VII : Drawings**
- **Section VIII : Bid Capacity Form**

# **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs”**

## **DEENDAYAL PORT AUTHORITY**

### **TENDER NOTICE NO. EL/AC/2755**

Executive Engineer (Electrical), DPA, New Kandla. Phone 02836-270209/270342 invites tender in Online E-tendering system for the work of “Providing 11 KV HT Power Supply at berth No. II & IX and Berth No. 13 to 16 for new HMCs”. Estimated Cost ₹ **4,74,27,306/-**. EMD ₹ **4,74,273/-** Last date of downloading: 26/07/2023 up to 15:00 hrs. Last date and time of submission of E-tender only on website <https://kpt.nprocure.com>: on 26/07/2023 up to 13:00 Hrs. Date and time for opening of E-tender: 26/07/2023 at 15:00 hrs. Tender shall be downloaded from web site: <https://kpt.nprocure.com> and also available on <http://www.deendayalport.gov.in> as well as <http://www.eprocure.gov.in>.

Corrigendum, if any, will be placed on websites only.

**Superintending Engineer (E)  
Deendayal Port Authority**

# “Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs”

## NOTICE INVITING ON LINE TENDER

Details about tender:

<b>Department Name</b>	<b>Mechanical Engineering Department</b>
<b>Circle/ Division</b>	<b>Electrical Division, Port &amp; Customs Building, Ground Floor, New Kandla-(Kutch)-370210</b>
<b>Tender Notice No.</b>	<b>EL/AC/2755</b>
<b>Name of Project</b>	Providing 11 KV HT Power Supply at berth No. II & IX and Berth No. 13 to 16 for new HMCs.
<b>Name of Work</b>	Providing 11 KV HT Power Supply at berth No. II & IX and Berth No. 13 to 16 for new HMCs.
<b>Estimated Contract Value (INR)</b>	<b>₹ 4,74,27,306/-.</b>
<b>Period of Completion (in Months)</b>	<b>8 months from the date of issue of work order.</b>
<b>Bidding Type</b>	<b>Open</b>
<b>Bid Call (Nos.)</b>	<b>One</b>
<b>Tender Currency Type</b>	<b>Single</b>
<b>INTIGRITY PACT</b>	<b>Integrity Pact agreement duly signed by the bidder and two witnesses (witness sign also to be obtained by the bidder) is also required to be submitted in preliminary bid.</b>
<b>Tender Currency Settings</b>	<b>Indian Rupee (INR)</b>
<b>Qualifying Criteria:</b>	<p><b>PRE-QUALIFICATION CRITERIA FOR ELIGIBLE BIDDERS:</b></p> <p>The Bidders shall fulfill the following pre-qualification criteria:</p> <p>a) Average annual financial turnover during the last three years ending 31<sup>st</sup> March of the previous financial year should be at least ₹ 142.28 Lakhs. as certified by the Chartered Accountant.</p> <p>b) Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:</p> <p>i) Three similar completed works each costing not less than the amount equal to ₹189.71 lakhs Or</p> <p>ii) Two similar completed works each costing not less than the amount equal to ₹ 237.14 Lakhs Or</p> <p>iii) One similar completed work costing not less than the amount equal to ₹ 379.42 Lakhs</p>

## “Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs

		<p>Similar work means SITC of 11 KV substation or above or SITC of HT distribution system for Government or Public Sector Undertaking or any reputed Industrial Organization or Industry/Company in private sector.</p> <p>Note: In case of a single project, where, different work orders for different activities have been issued by more than one agency, such work shall also be considered.</p>																								
d	Bidding capacity	<p>a) Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:</p> <p>Assessed Available Bid capacity = <math>A \times N \times 2 - B</math>, Where, "N" = Number of years prescribed for completion of the subject contract. "A" = Maximum value of works executed in any one year during last seven years (at current price level). "B" = Value at current price level of existing commitments and ongoing works to be completed in the next 'N' years. Note: For bringing value of works to current level, multiplying factor to be indicated in tender with reference to escalation based on WPI.</p> <table><tr><td>Financial Year</td><td>21-22</td><td>20-21</td><td>19-20</td><td>18-19</td><td>17-18</td><td>16-17</td><td>15-16</td></tr><tr><td>Index</td><td>139.4</td><td>123.4</td><td>121.8</td><td>119.8</td><td>114.9</td><td>111.6</td><td>109.7</td></tr><tr><td>Multiplying Factor</td><td>1.0</td><td>1.13</td><td>1.14</td><td>1.16</td><td>1.21</td><td>10.25</td><td>1.27</td></tr></table> <p>The Bidder shall furnish statements showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Nodal Office or his nominee-in charge.</p> <p><b>IMPORTANT: a) The value of annual turnover is not to be considered towards "A" as mentioned in the formula.</b></p> <p><b>b) The information may be provided as per the format given at Section-VIII.</b></p> <p><b>c) In Case the similar work has been issued for any private body, the bidder will be required to produce the tax deducted at source (TDS) certificate indicating the income tax deducted by the client for that work, which will form the basis for assessing the value of completed work.</b></p>	Financial Year	21-22	20-21	19-20	18-19	17-18	16-17	15-16	Index	139.4	123.4	121.8	119.8	114.9	111.6	109.7	Multiplying Factor	1.0	1.13	1.14	1.16	1.21	10.25	1.27
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Joint Venture		Not applicable																								
Rebate		Not applicable																								
Bid Document Fee:		<p><b>₹ 5900 (incl. 18% GST)</b></p> <p>Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on "(n) procure website."</p> <p>In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small</p>																								

## “Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs

and Medium Enterprises indicating the list of activity related to the subject tender as per national Industrial Classification-2008 mentioned in the table below only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.

Level	Description
Section – F	CONSTRUCTION
Division – 42	CIVIL ENGINEERING
Group – 422	Construction of utility projects
Class – 4220	Construction of utility projects
Sub Class - 42202	Construction/erection and maintenance of power, telecommunication and transmission lines

Level	Description
Section – D	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Division – 35	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Group – 351	Electric power generation, transmission and distribution
Class – 3510	Electric power generation, transmission and distribution
Sub Class - 35109	Collection and distribution of electric energy to households, industrial, commercial and other users n.e.c.

### **Bid Document Fee Payable To:**

Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on (n) procure website.

In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender as per National Industrial Classification-2008 mentioned in the table below only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.

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## "Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs

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## “Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs

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	<b>NOTE:- Accordingly, offer of those bidders shall only be opened whose EMD, Tender Fee and Integrity pact (duly signed by bidder and witnesses) are received electronically.</b>	
Bid Document Downloading Start Date	22/06/2023	
Bid Document Downloading End Date	25/07/2023 up to 15:00 Hrs	
Date & Place of Pre Bid Meeting	07/07/2023 @ 12:00 Hrs at A.O. Building, Gandhidham	
Last Date & Time	25/07/2023 @ 15:00 Hrs	
for Receipt of Bids		
Bid Validity Period	120 Days	
Condition	<p>(1) <b>Tender Fee:-</b>Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on “(n) procure website.”.</p> <p>In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender as per National Industrial Classification-2008 mentioned in the below table only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.</p> <p>(2) <b>EMD:</b> Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on “(n) procure website.”.</p> <p>In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender as per National Industrial Classification-2008 mentioned in the below table only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.</p> <p>Accordingly, offer of those bidders shall only be opened whose EMD and Tender Fee are received electronically.</p>	



## **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

Remarks	Hard copies of the all bid documents should reach within seven days from the date of opening of preliminary bid.
Bid Opening Date	Technical Bid will be opened on 25/07/2023 @ 16:30 Hrs. Date of opening of price bid shall be notified after scrutiny and evaluation of Technical Bid.
Documents required to be submitted by scanning through online	<b>a.</b> Documents in support of fulfilling Qualifying Criteria as indicated above. <b>b.</b> EMD -As indicated above. <b>c.</b> Tender fee - As indicated above. <b>d.</b> Integrity pact duly signed by bidder and witnesses. <b>e.</b> Documents Mentioned in Eligibility Criteria.
Officer- Inviting Bids:	Executive Engineer (E), Electrical Division, Port & Custom Building, Ground Floor, New Kandla-(Kutch)- 370210
Bid Opening Authority :	Executive Engineer (E)
Address:	Executive Engineer (E), Electrical Division, Port & Custom Building, Ground Floor, New Kandla-(Kutch)- 370210
Contact Details :	Executive Engineer (E), Electrical Division, Port & Custom Building, Ground Floor, New Kandla (Kutch)- 370210 Phone: 02836-270209, 270342. Mob: 98252-27048 , Fax No. 02836 270184.

**In case, bidders need any clarifications or if training is required to participate in online Tenders, they can contact (n) Procure Support team at following address: -**

(n) code Solutions-A division of GNFC Ltd.,  
 (n)Procure Cell 403, GNFC Info tower, S.G. Road, Bodakdev, Ahmedabad – 380054  
 (Gujarat)

**Contact Details:**

**Airtel:** +91-79-40007501, 40007512, 40007516, 40007517, 40007525

**BSNL:** +91-79-26854511, 26854512, 26854513 (EXT: 501, 512, 516, 517, 525)

**Reliance:** +91-79-30181689 Fax: +91-79-26857321, 40007533

**E-mail:**[nprocure@gnvfc.net](mailto:nprocure@gnvfc.net)

**TOLL FREE NUMBER:** 1-800-233-1010 (EXT: 501, 512, 516, 517,525)

# **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

## **SECTION-1** **Instruction to bidders**

### **A. GENERAL**

#### **1. Scope of Bid**

Executive Engineer (Electrical), Deendayal Port Authority invites bids by E-Tendering from the interested eligible bidder for the work as mentioned in the notice inviting online tender. All bids shall be completed and submitted on-line in accordance with instruction to the bidders.

The successful bidder will be expected to complete the works by the intended completion period.

#### **2. Source of funds**

The employer has arranged the funds from the prospective applicant under deposit scheme and will have sufficient funds in India Currency for execution of the work.

#### **3. Eligible Bidders**

Only eligible bidders fulfilling all the requirements as mentioned in the Notice Inviting Online Tender may participate in the subject Tender. Successful completion of “Similar Works” only shall be considered for evaluation of eligibility criteria.

The invitation for Bids is open to all eligible bidders meeting the eligibility criteria as defined in clause regarding Eligibility Criteria.

All bidders shall fill the forms provided in Section – IV- Part – I “To be submitted by Bidders with their Bids”.

Government-owned enterprises may 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.

Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the employer.

## **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

### **4. Eligibility Criteria:**

The Bidders shall fulfill the following pre-qualification criteria:

<b>FINANCIAL</b>		
Sr. No.	Particulars	Supporting documents
(a)	Average annual financial turnover during the last three years ending 31 <sup>st</sup> March of the previous financial year should be at least ₹ 142.28 Lakhs.	Certificate should be issued by the Chartered Accountant.
<b>TECHNICAL</b>		
(c)	<p>Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:</p> <p>(i) Three similar completed works each costing not less than the amount equal to ₹ 189.71 lakhs</p> <p style="text-align: center;">OR</p> <p>(ii) Two similar completed works each costing not less than the amount equal to Rs. 237.14 Lakhs</p> <p style="text-align: center;">OR</p> <p>(iii) One similar completed work costing not less than the amount equal to Rs. 379.42 Lakhs</p>	<p>a) A copy of the completion certificate in respect of the successfully completed similar work.</p> <p>b) A copy of work order should also be submitted for which the bidder is submitting the completion certificate.</p> <p>Such completion certification should be issued on the letter head of the client and invariably reflect the following details:</p> <p>1) Name of Contractor (2) Name of Work (3) No. of work order/agreement and date (4) Contract value (5) Contract period (6) Date of commencement of work (7) Date of completion (8) Value of Work executed during the contract period/original contract period (9) Date of issue of completion certificate.</p> <p>2) In case the similar work has been executed for any private body, the bidder will be required to produce Form 26AS indicating the income tax deducted by the client for that work, which will form the basis for assessing the value of completed work. Along with the Form 26AS, a statement should be submitted giving details showing the name of the client, gross amount of the work, TDS amount and net payment received. The statement should be signed by the Chartered Accountant.</p>
(d)	Definition of similar work	<p>“SITC of 11 KV substation or above or SITC of HT distribution system for Government or Public Sector Undertaking or any reputed Industrial Organization or Industry/Company in private sector.”</p> <p>Note : In case of a single project, where, different work orders for different activities have been issued by more than one agencies, such work shall also be considered.</p>

## “Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs

e	Bidding capacity	<p>c) Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:</p> <p>Assessed Available Bid capacity = <math>A \times N \times 2 - B</math>, Where, "N" = Number of years prescribed for completion of the subject contract. "A" = Maximum value of works executed in any one year during last seven years (at current price level). "B" = Value at current price level of existing commitments and ongoing works to be completed in the next 'N' years. Note: For bringing value of works to current level, multiplying factor to be indicated in tender with reference to escalation based on WPI.</p> <table><tr><td>Financial Year</td><td>21-22</td><td>20-21</td><td>19-20</td><td>18-19</td><td>17-18</td><td>16-17</td><td>15-16</td></tr><tr><td>Index</td><td>139.4</td><td>123.4</td><td>121.8</td><td>119.8</td><td>114.9</td><td>111.6</td><td>109.7</td></tr><tr><td>Multiplying Factor</td><td>1.0</td><td>1.13</td><td>1.14</td><td>1.16</td><td>1.21</td><td>10.25</td><td>1.27</td></tr></table> <p>The Bidder shall furnish statements showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Nodal Office or his nominee-in charge.</p> <p><b>IMPORTANT: a) The value of annual turnover is not to be considered towards "A" as mentioned in the formula.</b></p> <p><b>b) The information may be provided as per the format given at Section-VIII.</b></p> <p><b>c) In Case the similar work has been issued for any private body, the bidder will be required to produce the tax deducted at source (TDS) certificate indicating the income tax deducted by the client for that work, which will form the basis for assessing the value of completed work.</b></p>	Financial Year	21-22	20-21	19-20	18-19	17-18	16-17	15-16	Index	139.4	123.4	121.8	119.8	114.9	111.6	109.7	Multiplying Factor	1.0	1.13	1.14	1.16	1.21	10.25	1.27
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- a. Copies of original documents defining the constitution or legal status, place of registration, and principal place of business, written power of attorney of the signatory of the Bid to commit the Bidder.
- b. Total monetary value of similar works performed for each of the last seven years ending last day of month previous the one in which applications are invited.
- c. Experience in works of a similar nature and size for each of the last seven years, and details of works underway or contractually committed, and Employers who may be contacted for further information on those contracts.
- d. Reports on the financial standing of the Bidder, such as profit and loss statements and auditor’s reports for the past three years ending 31<sup>st</sup> March of the previous financial year.
- e. Duly filled Forms mentioned in Section – IV- Part –I.
- f. PAN, Registration with GST, Provident Fund Authorities.
- g. EMD = Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no.

## **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

and date of transfer may be uploaded on (n) procure website. In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.

Level	Description
Section – F	CONSTRUCTION
Division – 42	CIVIL ENGINEERING
Group – 422	Construction of utility projects
Class – 4220	Construction of utility projects
Sub Class – 42202	Construction/erection and maintenance of power, telecommunication and transmission lines

Level	Description
Section – D	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Division – 35	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Group - 351	Electric power generation, transmission and distribution
Class – 3510	Electric power generation, transmission and distribution
Sub Class - 35109	Collection and distribution of electric energy to households, industrial, commercial and other users n.e.c.

Tender fee = Through on line transfer in PNB bank account no. 2177000100022538 - Deendayal Port Trust - (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on (n) procure website. In case of Micro and Small Enterprise (MSEs) holding valid certificate issued by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender as per National Industrial Classification-2008 mentioned in the below table only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid.

- h. Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount.
- i. A certificate by the bidder that they have not been banned / black listed by any govt. Agency.
- j. Power of attorney (dully accompanied by resolution of Board in case of company).
- k. Qualifications and experience of key site management and technical personnel proposed for the contract.
- l. The proposed methodology and program of work, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.
- m. Bidders should give an undertaking letter duly stating that the documents submitted by them in support of their credentials are genuine and DPA is at liberty to take any action against the bidder if the said documents are found to be non-genuine.
- n. The completion certification should invariably mention the reference no. of work order, the date of completion and contract value.

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- o. The copy of the work order shall also be submitted for which the bidder is submitting completion certificate.
- p. Bidders should give an undertaking that they will comply to the specifications of the work including terms and conditions in total without any deviation.

Even though the bidder meets the above qualifying criteria, they are subject to be disqualified if they have:

- Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements: and/or
- Record of poor performance such as abandoning the works, non – completion of the contract.

### **5. One Bid per Bidder**

Each bidder shall submit only one bid. A bidder who submits more than one Bid will cause all the proposals with the Bidder’s participation to be disqualified and forfeiture of EMD.

### **6. Joint Venture (Not applicable as per Clause No. 1 under Special Conditions, Section-III)**

In case of association in the form of consortium or joint venture agreement, the members of the association shall nominate one of the members as “lead partner” for participating in the tender and signing all the documents related therewith up to signing of agreement and execution of all the contractual obligations there after (in case of award of contract). All the partners of the association must also, jointly and severally, be responsible for satisfactory execution and performance of the contract. The firms with at least 26% equity holding each are allowed to jointly meet the eligibility criteria.

### **7. Cost of Bidding**

The Bidder shall bear all costs associated with the preparation and submission of its Bid and employer will in no case be responsible and liable for those costs regardless of the conduct or outcome of the bidding process.

### **8. Site Visit**

The Bidder, at his own responsibility and risk is encouraged to visit and examine the site of work and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the works. The costs of visiting the site shall be at the Bidders’ own expense.

## **B. Bidding Documents**

### **9. Content of Bidding Documents**

- 9.1 The set of bidding documents comprises the documents listed in the below and addenda issued in accordance with clause-9:  
Invitation for Bids (NIT)
- 9.2 The bidding documents shall be downloaded. The documents should be completely filled and submitted through on line E – Tendering process.

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- 9.3 The bidder is expected to examine carefully all instructions, conditions of contract, forms, terms, technical specifications, bill of quantities, in the bid document. Failure to comply with the requirements of the bid document shall be at the bidder's own risk. Bids which are not substantially responsive to the requirements of the tender documents shall be rejected.

### **10. Clarifications of the Bidding Documents**

A prospective bidder requiring any clarification of the bidding documents may notify the employer in writing. The employer may respond to any request for clarification which are received within seven days prior to date of pre-bid meeting. The clarifications shall be uploaded on Website <https://kpt.nprocure.com>, [www.deendayalport.gov.in](http://www.deendayalport.gov.in) and [www.eprocure.gov.in](http://www.eprocure.gov.in).

#### **Pre-Bid meeting**

The bidder or his official representative may attend pre-bid meeting to be held on / /2023 @ 15:00 hrs in the Old Board Room, A.O Building, Gandhidham. The bidders/representative of bidders who wish to attend the Pre-Bid meeting shall furnish the authority letter on the letter head of Bidder, for attending the Pre-Bid Meeting on behalf of bidder at the time of Pre-Bid Meeting.

The purpose of the meeting will be to clarify issues related to work and tender conditions.

Pre – Bid clarifications will be uploaded in <https://kpt.nprocure.com>, [www.deendayalport.gov.in](http://www.deendayalport.gov.in) and [www.eprocure.gov.in](http://www.eprocure.gov.in) website without disclosing source of enquiry.

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

At any time prior to the deadline for submission of Bids, employer may, for any reason, whether at its own initiative or in response to a clarification sought by any prospective bidder, modify the bidding documents by amendment / addendum.

Those bidders who download the tender document from the website shall be solely responsible to check the web site for the amendment issued in shape of Corrigendum and/or Addendum.

### **11. Language of Bid**

All documents relating to the bid shall be in the English language.

### **12. Documents comprising the Bid**

The bid submitted by the bidder shall comprise the following:

## **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

### **A) Technical Bid:**

- i) Bid Security declaration and Tender Fees
- ii) Qualification information in accordance to clause of **Eligibility Criteria** shall be submitted.

### **B) Financial Bid:**

- (i) Bill of Quantities duly filled and digitally signed by bidder.

### **13. Bid Prices**

The rates and prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

The prices shall be quoted inclusive of all Taxes, (except GST), Duties, and other incidentals charges like Transportation, Loading, Unloading, Boarding & Lodging etc. and should remain firm till completion of work.

### **14. Currencies of Bid and Payment**

The unit rates and the prices shall be quoted by the bidder in Indian Rupees only.

### **15. Bid Validity**

Bids shall remain valid for a period of 120 days from the date of opening of the Technical Bid. A bid valid for a shorter period shall be rejected by the employer as Non-responsive.

In exceptional circumstances, prior to expiry of the original time limit, the employer may request the bidders to extend the period of validity for additional period. The request and the bidders' responses shall be made in writing. A bidder may refuse the request for which EMD will not be forfeited.

A bidder agreeing to the request will not be permitted to modify his bid.

### **16. Bid Security**

**EARNEST MONEY DEPOSIT (EMD) = Rs. 4,74,273/- (Rupees Four Lakh Seventy four thousand two hundred seventy three Only).**

- (i) The tender not accompanied with EMD shall not be considered & their technical and price bid will be returned un-opened. Through on line transfer in PNB bank account no. 2177000100022538 – Deendayal Port Trust (IFSC code PUNB0217700). Scanned copy of RTGS no. and date of transfer may be uploaded on “(n) procure website.”.  
In case of Micro and Small Enterprise (MSEs) holding valid certificate issued



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by any agencies/organization under The Ministry of Micro, Small and Medium Enterprises indicating the list of activity related to the subject tender as per National Industrial classification-2008 mentioned in the table below only shall become eligible for exemption from payment of Tender fee/EMD. Such bidder shall upload the scanned copy of valid certificate in preliminary bid

Level	Description
Section – F	CONSTRUCTION
Division – 42	CIVIL ENGINEERING
Group – 422	Construction of utility projects
Class – 4220	Construction of utility projects
Sub Class - 42202	Construction/erection and maintenance of power, telecommunication and transmission lines

Level	Description
Section – D	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Division – 35	ELECTRICITY, GAS, STEAM AND AIRCONDITION SUPPLY
Group – 351	Electric power generation, transmission and distribution
Class – 3510	Electric power generation, transmission and distribution
Sub Class - 35109	Collection and distribution of electric energy to households, industrial, commercial and other users n.e.c.

in order to become eligible for exemption from payment of EMD. It may be noted that exemption certificate issued by any other authority will not be entertained. Earnest money in the form of Bank Guarantee will not be accepted under any circumstances.

### **a. EMD**

(i) The EMD of successful Bidder will be refunded on submission of performance guarantee (in Form 9) as per the tender clause and executing the agreement (in Form 8) as per tender clause. The EMD of unsuccessful bidders other than L1 & L2 be refunded immediately after ranking of Bids. Earnest Money of L2 bidder shall be refunded immediately after entering into agreement with L1 and acceptance of Performance Guarantee from L1.

(ii) EMD will be refunded Suo-motto without any application from the Bidders.

(iii) The EMD of successful bidder will be discharged (refunded) after he has signed the Agreement and furnished the required Performance Guarantee.

(iv) Earnest Money Deposit will not carry any interest.

**b. Necessary action shall be taken to disqualify the bidder from bidding process of any contract with DPA for a period of 03 years and EMD may be forfeited, if:**

## **“Providing 11 KV HT Power Supply at berth No. II & IX & Berth No. 13 to 16 for new HMCs**

- (i) The bidder withdraws the Bid after Bid opening during the bid validity;
- (ii) The bidder does not accept the correction of the Bid-Price, pursuant to any arithmetic errors;
- (iii) The successful Bidder fails within the specified time limit to
  - a) Sign the Agreement or
  - b) Furnish the required performance Guarantee
- (iv) The bidder submits more than one bid

### **17. Alternative Proposals by Bidders**

Conditional offer or Alternative offers will not be considered in the process of tender evaluation.

### **18. Format and Signing of Bid**

The Price Bid to be submitted on-line shall be signed digitally by a person or persons duly authorized to sign on behalf the Bidders.

### **19. Amendment of Bidding Documents**

Before the deadline for submission of bids, the Employer may modify the bidding documents by using addenda.

Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing or by cable to all the purchasers of the bidding documents. Prospective bidders shall acknowledge the receipt of each addendum by cable to the Employer.

To give prospective bidders reasonable time in which to take an addendum in to account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids.

## **C. Submission of Bids**

### **20. Submission of Bids**

Bidders who wish to participate in the tender will have to procure/should have legally valid Digital Certificate, as per Information Technology Act-2000, using which they can sign their electronic bids. The bidders can procure the Digital Certificate from (n) code solutions a division of GNFC Ltd, who are licensed certifying authority by Government of India. All bids should be digitally signed. For details regarding Digital signature certificate and related matters, the bidder may contact the following address:

(n) code Solutions,  
A Division of GNFC,

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301 GNFC Infotower,  
Bodakdev, Ahmedabad.  
Tel. 91 79 26857316/17/18  
Fax: 91 79 26857321  
Mobile: 9327084190 / 9898589652.  
E-mail: [nprocure@gnvfc.net](mailto:nprocure@gnvfc.net).

The accompaniments to the tender documents as described under Clause **4.2** shall be Scanned and submitted On-Line along with Tender documents. **However, the originals/attested hard copies along with tender documents (except Price Bid), signed on bottom of each page in token of acceptance of Tender Conditions** and shall have to be forwarded subsequently so as to reach the office of Executive Engineer (E) within 7 days of opening of the tenders.

The envelopes shall be addressed to:

(a) Executive Engineer (E)  
Deendayal Port Authority  
Electrical Division,  
Ground Floor,  
Port & Customs Building,  
New Kandla – 370210.  
Gujarat State.

(b) bear the following identification:

Accompaniments for “ Providing 11 KV HT Power Supply at berth No. II & IX and Berth No. 13 to 16 for new HMCs”

Bid reference No. EL/AC/2755

Name and address of the bidder.

### **21. Deadline of Submission of the Bids**

Bids must be received by the employer in On-Line System at websites <https://kpt.nprocure.com> not later than / / (2023 up to 14:00 Hrs.

At the time of submission of the tender document, the Bidder shall give an undertaking that no changes have been made in document. The uploaded version of the Port Tender Document at <https://kpt.nprocure.com> websites will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the Bidder, the conditions mentioned in the Port's uploaded document on <https://kpt.nprocure.com> websites shall prevail.

The employer may extend the deadline for submission of bids by issuing

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an amendment on DPA website as well as on <https://kpt.nprocure.com> in which case all rights and obligations of the employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

In case of tender documents being downloaded from the web site, at the time of submission of (the hard copy of) the tender document, the tenderer shall give an undertaking that no change have been made in document. Any discrepancy is noticed at any stage between the port's tender document uploaded on <https://kpt.nprocure.com> and the one submitted by the tenderer, the conditions mentioned in the port's tender document uploaded on <https://kpt.nprocure.com> shall prevail. Besides, the tenderer shall be liable for legal action for the lapses.

### **22. Late Bids**

After the deadline of submission of bid, the bids cannot be submitted in the On-Line System.

### **23. Modification and Withdrawal of Bids**

Bidders may modify or withdraw their bids before the deadline of submission of bid or extension if any.

No Bid can be modified after the last date for submission of Bids.

Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity including extension, if any, may result in the forfeiture of the Bid security i.e. EMD.

### **D. Bid Opening and Evaluation**

#### **24. Bid Opening**

On the due date and time, the employer will first open Technical bids of all bids received including modifications.

In the event of the specified date for Bid opening being declared a holiday by the employer, the Bids will be opened at the appointed time on the next working day at the same time.

If any Bid contains any deviation from the Bid documents and / or if the same does not contain Bid security i.e., EMD and tender fees in the manner prescribed in the Bid documents, then that Bid will be rejected and the Bidder will be informed accordingly.

The bids which are technically qualified, their financial bids will be

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opened. The date of opening of financial bid will be declared in the <https://kpt.nprocure.com> and [www.deendayalport.gov.in](http://www.deendayalport.gov.in) .

The price bid i.e., BOQ will be opened only those bids qualify technically.

### **25. Clarification of Bids**

To assist in the examination and comparison of Bids, the employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakup of unit rates. The request for clarification and the response shall be in writing, but no change in the price of substance of the Bid shall be sought, offered, or permitted.

No Bidder shall contact the employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded.

Any effort by the Bidder to influence the employer's bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.

### **26. Examination of Bids and Determination of Responsiveness**

Prior to detailed evaluation of Bids, the employer will determine whether each Bid

- (a) has been properly digitally signed,
- (b) meets the eligibility criteria defined
- (c) is accompanied by the required Bid security and tender fees;
- (d) is responsive to the requirements of the Bidding documents.
- (e) GST number to be quoted invariable by bidder.

A substantially responsive Technical and Financial Bid is one which conforms to all the terms, conditions and specification of the Bidding documents.

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-confirming deviation or reservation.

### **27. Evaluation and Comparison of Bids**

The employer will evaluate and compare only the Bids determined to be responsive.

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In evaluating the Bids, the employer will determine for each Bid the evaluated Bid price by adjusting discounts, if any.

If in the opinion of Engineer-In-Charge, the rate quoted by successful bidder is abnormally high/low compared to the estimated cost of the work, the employer may ask the bidder to produce detailed price analysis for all items of the bill of quantities.

### **Award of Contract**

#### **28. Award Criteria**

The employer will award the work to the bidder whose bid has been evaluated to be techno – commercially responsive and the lowest evaluated amount bid subject to submission of agreement and performance security.

The employer, if so required, reserves the right to:

- a) split the work and award the work in favor of more than one firm,
- b) Award the work separately as supply, execution, Operation & Maintenance/Operation/Maintenance as applicable.

#### **29. Employer’s Right to accept any Bid and to reject any or all.**

Notwithstanding Clause 28, the Employer reserve the right to accept or reject any bid and to cancel the bidding process and reject all bids without assigning any reason, at any time prior to the award of contract, without thereby incurring and liability to the affected bidder or bidders of the grounds for Employer’s action.

#### **30. Letter of Intent:**

The Chief Mechanical Engineer will issue the Letter of Intent (Form No. 7) intimating the successful bidder about the proposed pre-acceptance of tender.

#### **31. Notification of Award and Signing of Agreement**

- i) The Bidder who’s Bid has been accepted will be notified for the award by the employer prior to expiration of the Bid validity period by confirmation in writing. In this letter (hereinafter and in the Conditions of Contract called the “Letter of Intent”) the contract amount, completion period of the work, etc will be mentioned in line with the tender conditions.

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- ii) The notification of award will constitute the formation of the Contract subject to the furnishing of a performance security in accordance with the provisions of tender condition.
- iii) The Agreement will be submitted by successful Bidder within 14 days (National Bid) 28 days (Global Bid) of issue of the notification of award (Letter of Intent). The agreement will incorporate all correspondence between the employer and the successful bidder.

### **32. Contract Agreement:**

The agreement on stamp paper shall be furnished by the Contractor as per the following guidelines within 14 days (National Bid) 28 days (Global Bid) from the date of issue of Letter of Intent.

- i) The successful Bidder will be required to execute an agreement at his expense on one Hundred Rupees (₹ 300/-) Non-Judicial Stamp Paper in the proper departmental format (Form 8) for the due and proper fulfillment of the contract within 14 days (national Bid) 28 days (Global bid) from the date of Letter of Intent.

Pending preparation and execution of the contract agreement as above, the tender submitted by the Contractor together with Chief Mechanical Engineer's letter/fax accepting the tender shall constitute a binding contract between the Board and the Contractor.

The contract period shall be reckoned from the date of issue of work order to commence the work.

- i) The original agreement as per the format attached with the tender should be executed on a stamp paper of appropriate value (at present ₹ 300/-)
- ii) The Agreement should be submitted in duplicate and the date of execution is to be kept blank.
- iii) Each page of the document is to be signed by the Contractor/ his authorized representative by indicating his full name.
- iv) If the Contractor is a partnership firm, then a copy of the Partnership Deed and in case it is a Company, a copy of Memorandum and Articles of Association along with Registration Certificate is to be submitted.
- v) If the agreement is signed by a Partner/ a Director/ an authorized person of the firm, in such case, a certified true copy of the power of attorney/ letter of authority given by the firm/ company to the signatory of the Contractor firm is to be submitted.
- vi) The entire agreement should be in type written form/ computer

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printed form.

- vii) Leaving blanks and insertion of some contents of the agreement with hand writing should be avoided.
- viii) All corrections/ additions made in the agreement are to be initialed.

### **33. Performance Security**

Security deposit shall consist of two parts; a) Performance Guarantee to be submitted after issue of LOI, and b) Retention money to be recovered from Running Bills.

1) Performance Guarantee shall be 10% of the contract price, of which 5% of contract price should be submitted as Performance Guarantee in form of Bank Guarantee, or Demand Draft within 21 days, on receipt of Letter of Intent and balance 5% to be recovered as Retention Money from Running Bills. Recovery of 5% Retention Money to commence from the First RA Bill onwards @ 5% of the Bill Value from each Bill. Retention Money will be refunded within 14 days from the date of payment of final bill. Balance SD will be refunded immediately not later than 14 days from completion of defect liability period.

2) Successful Bidder has to submit the Performance security @ 5% of Contract price within 21 days of receipt of Letter of Intent, failing which the work will not be awarded and the Bid Security i.e., EMD will be forfeited.

3) The Port Trust will also be at liberty to deduct from performance guarantee or from any sums of money due or that may become due under any contract with the contractor that may become due to the employer. This is without prejudice to the rights of the employer under the terms of the contract. The Bank Guarantee is required to be dispatched by the issuing bank directly to The Employer by Registered AD Post.

4) The Port Trust may at their option forfeit the Performance Guarantee cum Security Deposit if the contractor fails to carry out the work or perform or observe the conditions of contract.

5) The balance Performance Guarantee cum Security Deposit will be released after successful completion of guarantee period.

6) If applicable, the documentary evidence (copy of paid challan in government treasury) of welfare cess @1% of work done or as amended by statutory authority from time to time, paid on final bill shall be submitted before releasing the performance guarantee.

### **34. Issue of Work Order**

Work order will be issued indicating the Contract value, completion period etc. after submission of Performance Security Deposit and Contract Agreement on Non-Judicial Stamp Paper by the successful



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bidder as per Tender Conditions.

### **35. Time Schedule**

The Contract shall be effective from the date of issue of Work Order and the work shall be completed within Eight (8) months from the date of issue of work order.

### **36. 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:

- (a) Defines the following for the purpose of these provisions:
    - (i) “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
    - (ii) “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.
  - (b) 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.
  - (c) will declare a Bidder ineligible, either indefinitely 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.
- 37.** Prospective bidder(s) may raise query relating to bidding conditions, bidding process and /or rejection of its bid. The reasons for rejecting a tender or non-issuing a tender to prospective bidder will be disclosed where written enquiries are made by the concerned bidder.

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**Signature & Seal  
of Contractor**

**Superintending Engineer (E)  
Deendayal Port Authority**

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## **SECTION – II**

### **GENERAL CONDITIONS OF CONTRACT**

#### **GENERAL CONDITIONS**

##### **1. Definitions**

In the Contract (as hereinafter defined) the definition of the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

- a. “Employer”** means Board of Trustees of Deendayal Port, a body corporate under the Major Port Trust Act 1963, by notification issued by the Government of India, acting through its Chairman, Dy. Chairman or Chief Mechanical Engineer or any other officers so nominated by the Board.
- b. “Contractor”** means the person or persons, firm, corporation or company whose tender has been accepted by the employer and includes the Contractor’s servants, agents and workers, personal representatives, successors and permitted assigns.
- c. “Contract”** means and includes Tender Documents, Instructions to Bidders, General Conditions of Contract, Drawings, Specifications, and Schedules etc., any amendments thereto, Bid, Letter of Intent, Contract Agreement and the work order.
- d. “Contract Price”** means the total sum of money to be paid by the employer to the contractor on timely completion of the contract work as per Contract including payment for extra work, i.e. as per defined and applicable items of the terms of payment, including any taxes, except GST, and duties to be paid to state or central Government.
- e. “Specifications”** means the specification referred to in the tender documents and any modifications thereof or additions thereto or amendments thereto as may be from time to time be furnished or approved in writing by the employer.
- f. “Chief Mechanical Engineer”** shall mean the Chief Mechanical Engineer of DEENDAYAL PORT AUTHORITY.
- g. “Work” or “Works”** shall mean the whole of the plant and materials to be provided and work to be done executed or carried out by the contractor under the contract.
- h. The “Site”** shall mean the whole of the premises, buildings and grounds in or upon which the system or works is or are to be provided, executed, erected, done or carried out.

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- i. The **“Schedule”** shall mean the schedule or Schedules attached to the specifications.
- j. The **“Drawings”** shall mean the drawings, issued with the specification which will ordinarily be identified by being signed by the Chief Mechanical Engineer and any further drawing submitted by the contractor with his tender and duly signed by him and accepted or approved by the Chief Mechanical Engineer and all other drawings supplied or furnished by the contractors or by the Chief Mechanical Engineer in accordance with these contract conditions.
- k. **“Trials” and “Tests”** shall mean such trials and tests as are provided for in these conditions of contract and described in the specification and shall include all other tests to be carried out as per the requirement of the ‘employer’.
- l. **“Approved” or “Approval”** shall mean approval in writing.
- m. **“Engineer-in-charge/Nodal officer”** shall mean any officer/Engineer authorized by Chief Mechanical Engineer for purpose of this contract.
- n. **“Day”** re calendar days, **“months”** are calendar months
- o. **“Equipment”** is the contractor’s machinery and vehicles brought temporarily to the site to construct the works.
- p. **“Material”** are all supplies, including consumables, used by the contractor for incorporation in the works.
- q. **“Plant”** is any integral part of the works which is to have mechanical, electrical, electronic or chemical or biological function.

### **2. Use of Contract Document:**

The Contractor shall not, without prior consent, make use of any document except for the purpose of performing this contract.

### **3. Change Orders:**

At any time during the execution of the contract, by a written notice to the Contractor, changes may be made in the general scope of contract. The Engineer In-charge (EIC), with due approval of competent authority, may make any changes in the quality and/or quantity of the work or any part thereof that may, in his opinion, be necessary and for that purpose the Engineer In-charge shall have the power to order the Contractor to do and the Contractor shall do any of the following:

- a. Increase or decrease or split the quantity of work included in the contract,
- b. Omit any such work.

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- c. Change the character, quality or kind of any such work,
- d. Change the dimensions of any such work,
- e. Change in Location
- f. Execute additional work of any kind necessary for completion of the work under the contract, and no such change shall in any way vitiate or invalidate the contract but the cost, if any, arising out of all such changes shall be taken into account in ascertaining the total amount of the contract price. Where the rate is available in the contract and the same is applicable to the additional work, in the opinion of the EIC, the cost of the additional work shall be determined as per this available rate. But, if the rate for additional work is not available in the contract, the same shall be determined by the EIC taking into account the market rate and labour cost at the site for similar works and shall be final.
- g. Deviations from the specifications as contained in the tender agreement including the make / model, shall not be accepted. In case of any such deviation, payment shall not be made for that part of the work / item, even if it is meeting the functional requirements and has been accepted by the purchaser. The payment for such portion of the work / item can only be released if the contractor makes good the deviations before the expiry of the warranty period so as to meet the specifications of the tender agreement in all respects.

### **4. Resolution of Dispute**

a) The Board and the Contractor shall make every effort to resolve amicably by direct informal negotiations, any disagreement or dispute arising between them in connection with the contract. However, in case of failure of negotiation between the Board and the Contractor, the parties shall refer their present and future disputes relating to the contract itself or arising out of or concerning or in connection with or in consequence of the contract to the Chairman, DPA whose decision shall be final and binding on both the parties. The contract shall be governed by the Indian Contract Act, 1872.

#### **b) Jurisdiction of Courts:**

All such disputes, which could not be settled at the intervention of Chairman, DPA, shall be subjected to the jurisdiction of the courts at Gandhidham.

### **5. Force Majeure:**

In the event that the Contractor is delayed in performing its obligations in the contract, and such delay is caused by force majeure including war, civil resurrection, strikes (other than the strike solely by the Contractor's men), fire, flood, epidemics, earthquakes, extremely adverse climatic conditions, such delay may be excused and the period of such delay may be added to the time of performance of the

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obligations without any addition to the contract price.

If a force majeure situation arises, the Contractor shall promptly notify the Board in writing of such condition and the cause thereof, ***but not later than 7 days from its occurrence***. Unless otherwise directed by the Board in writing, the Contractor shall continue to perform its obligations under the contract as far as reasonably practicable. The Contractor shall demonstrate to the Board’s satisfaction that it has used its best endeavor to avoid or overcome such causes of delay and the parties will mutually agree upon remedies to mitigate or overcome such causes of delay without having any right to any claim on account of such force majeure.

In any other situation, which is beyond the reasonable control of the Contractor in the opinion of the Engineer In-charge, and where the Contractor has promptly notified the Board in writing about such situation, it may be considered as “Force Majeure” situation.

### **6. Compliance with Statutes, Regulations:**

The Contractor shall comply in all respects, with all statutes and regulations as may be necessary, including clearance from State/Central Govt. authorities, Pollution Control Boards, labour enforcement and local authorities. The Contractor shall, at all times during the continuance of the contract, so far as it may be necessary, comply with all the existing enactments including Central and State legislation as well as any by-laws of any local authorities regarding labour, particularly the Minimum wages Act, Factories Act, Workmen’s Compensation Act, Employees’ Provident Fund and Family Pension Fund Act, Employees’ State Insurance Act, Contract Labour (Regulation and Abolition) Act, Payment of Wages Act, Maternity Benefit Act, National and Festival Holidays Act, Shop and Establishment Act, The Apprentice Act and keep DPA indemnified against any loss or claim arising out of contravention of the provisions of the above said enactments by the Contractor. The price quoted by the Contractor in the Bill of Quantity shall be deemed to include all expenses whatsoever the Contractor may be required to incur for the compliance with the provisions of the above said legislation. The Contractor shall make necessary arrangements for DPA to witness the payment made by the Contractor to his staff and labour.

### **7. Payment Terms: (Modified as per Clause No. 2 under Special Conditions, Section-III)**

All payments shall be made in Indian rupees unless specifically mentioned.

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### **(I) In respect of tender for supply and installation (Changes to be made as per nature of the Work)**

- i. 70% of above item rate against receipt of material at site in good condition after obtaining insurance cover as per tender condition (if TPI appointed then after inspection & certification of the same by Third Party Inspection Agency).
- ii. 20% of item rate after completion of erection, installation, testing and commissioning, etc. (if TPI appointed then after inspection & certification of the same by Third Party Inspection Agency) and 90% of item rate for item covers only supply/laying/fixing (if any).
- iii. 10% will be released after successful completion of whole work (if TPI appointed then after inspection & certification of the same by Third Party Inspection Agency).

### **II) In respect of lump sum work (Changes to be made as per nature of the Work)**

- i) 95% payment after deducting 5% as retention money towards performance security **(Modified as per clause 2 of Special Condition – Section III)**.

#### **NOTE:**

The payment shall be made through RTGS /NEFT and the Contractor should be furnished following details:-

Bank Payment Agreement Form

- a. Name of Party
- b. Account No.
- c. Branch Name
- d. Branch Station
- e. IFSC code of the bank
- f. MICR code
- g. Accepted for:-NEFT payment or RTGS payment

Declaration by the party

I/We hereby declare that the above information furnished by me is correct and DPA is requested to pay my / our dues to this account for this work is concerned.

Signature of the party with the seal

Declaration by the bank

It is hereby informed that the details mentioned by the party is correct as per our records and any payment made by DPA to this account will be accepted either by RTGS/NEFT.

Signature of the bank manager with the seal.

**8. Insurance: (Modified as per Clause No. 3 under Special Conditions, Section-III)**

The contract shall provide in the joint names of the employer and the contractor, insurance cover from the start date to the end of guarantee period for the following events which are due to the contractor risk:

- a) loss of or damage to the works, plant and materials
- b) loss of or damage to equipment
- c) loss of or damage of property (except the works, plant, materials and equipment) in connection with contract, and
- d) personal injury or death

Policies and certificates for insurance shall be delivered by the contractor to the engineer in charge or his nominee before the commencement of work. All such insurances shall provide for compensation to be payable to the types and proportions of currencies required to be rectify the loss or damage incurred.

Alterations to the terms of insurance shall not be made without the approval of the engineer in charge or his nominee,

All the materials shall stand insured from the time of arrival at site till commencement of erection against fire, pilferage, damage and against natural calamities for the value of 90% of each item.

During erection and till the work is completed and satisfactory taken over by the DPA 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.

**9. Time Extensions:**

The Contractor may claim extension of the time limits in case of;

- i) Changes ordered by DEENDAYAL PORT AUTHORITY.
- ii) In case work is delayed on DPA's Account, i.e. due to delay in approval of drawings, non-availability of site clearance or any other reason, DPA will consider time extension of merit. However, no compensation will be paid to the Contractor if work is delayed on DPA's account. The Contractor shall submit the request for



extension, within 30 days of occurrence of such delay, clearly indicating the justification for such extension.

iii) Force Majeure.

iv) All the incidents of delay should be entered in the hindrance register which will be base for granting any extension.

## **10. Time is the essence of the contract:**

Time is the essence of the contract and the Contractor shall ensure that all the obligations under the contract are completed within the agreed time schedule. The Contractor shall be solely responsible for all the delays including the delays caused by its vendors. In case of delay in progress of the works, DEENDAYAL PORT AUTHORITY reserves the right to withhold the payment, cancel the contract unilaterally or complete the work departmentally.

## **11. Liquidated Damages:**

- 11.1 In case of delay in completing the contract, liquidated damages (LD) may be levied at the rate ½% of the contract value per week of delay or part thereof subject to a maximum of 10% of the contract price.
- 11.2 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 LD. In the event of extension of time at its discretion with LD the employer will be entitled without prejudice to any other right or remedy available in that behalf percent (½%) of the contract value of the works for each week or part of the week subject to the ceiling 10% of contract value.
- 11.3 The employer, if not satisfied that the works can be completed by the contract, 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.
- 11.4 The employer, if not satisfied with the progress of the contract and in the event of failure of the contract to recoup the delays in the mutually agreed time frame, shall be entitled to terminate the contract.
- 11.5 In the event of such termination of the contract as described in clauses (11.3) or (11.4) or both, the employer shall be entitled to recover LD up to ten percent (10%) of the contract value and forfeit the security deposit made by the contract besides getting the work completed by other means at the risk and cost of the contractor.
- 11.6 In case part/portion of the work can be commissioned and port operates the portion for commercial purpose, the rate of LD will be restricted to the uncompleted value of work, the maximum LD being on the entire contract value.

**12. Variations:****Variation in Conditions of Contract:**

In case of any variation in Instructions to Bidders (ITB), General Conditions of Contract (GCC) and the Special Conditions of Contract – if any special conditions of contract shall prevail. But in case of any requirement/condition specified in the Scope of Work, it shall prevail over all other conditions.

**Variation in Quantities of Schedule – B:**

The overall as well as individual variations shall be  $\pm 30\%$  in quantity for which the rate quoted by the bidder and accepted by the employer shall be applicable.

**13. Acceptance:**

Upon completion of work under this contract, the Board may accept the works and/or services after installation, if defects or shortcomings are not considered essential and, the Contractor agrees to make good the deficiencies in confirmation with this contract. No work shall be accepted before the Contractor clears the site of scraps, unused materials, work shed, equipment and all such materials which were used for execution of the work and not required any more at the work site. Also, the Contractor has to submit all the documents and final “as built” drawings as per the contract agreement without which no work shall be treated as complete.

Completion Certificate shall be issued by the employer after satisfactory completion of work as per tender and after taking trial.

**14. Guarantee: (Modified as per Clause No. 4 under Special Conditions, Section-III)**

The warranty period shall be valid for minimum 5 years for supply with effect from the date of acceptance of the supply items unless

otherwise specified in the scope of work/Special Conditions of Contract (SCC).

The Contractor shall warrant the Board that the goods and services under this contract will comply strictly with the contract, shall be first class in every particular case and, shall be free from defects. The Contractor shall further warrant the Board that all materials, equipment and the supplies furnished by him will be new and fit for their intended purposes.

The Board shall promptly notify the Contractor in writing of any claim arising under this Warranty. Upon receipt of such notice, the Contractor shall promptly repair or replace the defective goods and/or services at no cost to the Board.

If the Contractor, having been notified, fails to rectify the defects in accordance with the contract, the Board may proceed to take such remedial action as may be necessary, at the Contractor's risk and cost.

## **15 Taxes:**

### **GST Clause:**

The contractor shall quote the price exclusive of GST. The contractor shall quote prevailing GST rate separately, which shall be reimbursed by DPA after ascertaining necessary compliance as per Goods & Service Tax, 2017.

All other duties, taxes, cesses applicable if any, shall be borne by the contractor.

### **Deduction of Income-Tax and GST:**

Income-Tax deductions and surcharge and GST+TDS under GST Act as applicable thereon shall be made good while making payments due to the contractor for carrying out the work and only net amount shall be paid as directed by the Central Board of Direct Taxes, Ministry of Finance, Government of India.

**Tax:** The rates quoted (except GST) by the contractor shall be deemed to be inclusive of the taxes, duties etc. which the contractor will have to pay for the performance of this contract, The employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law.

**16. Deduction:**

Deduction of taxes/income tax at source shall be made from the any bill of the Contractor in accordance with the prevailing rules of Govt.

While performing under the contract, the damages caused by the Contractor or his workers to any of the Port Trust property shall be promptly made good by the Contractor at his own cost. In case the Contractor fails to repair/replace the damage, DEENDAYAL PORT AUTHORITY shall have the right to take steps to make good the damages and all the cost on this account shall be recovered from the bills of the Contractor or any money due to the Contractor from this contract or any other contract or any other transaction. In determination of the damage, the opinion of the Engineer-In-charge (EIC) shall be conclusive.

Any dues arising out of failure on the part of the Contractor to carry out any obligation under the contract shall be deducted from the bills of the Contractor or from any money due to the Contractor from this contract or any other contract.

**17. Subcontracts:**

The Contractor shall not be allowed to engage any sub-contract for all or any part of this contract.

**18. Idle Charges:**

All efforts shall be made for timely supply of materials and/or equipment where it is included in the scope of Deendayal Port. However, the Contractor shall not be entitled to any idle charges for delay in supply of materials and/or equipment by the Port Trust. Further, in case of any delay due to stoppage of work ordered by the Port Trust to avoid interruption in other important activities of Port Trust or any other reason, the Contractor shall not claim any idle charges.

**19. Personal Protective Equipment: (PPE)**

The Contractor shall be solely responsible, at his own cost, for the supply of required PPE to his workers and staff and he shall also ensure the use of PPE such as helmets, nose masks, hand gloves etc. by his staff at site.

**20. Conduct:**

The Contractor, at all times during the tenure of contract, shall take all measures to prevent any unlawful, riotous or disorderly conduct by or amongst his staff at the site and for the preservation of peace and protection of persons and property at the work site as well as in the enactment of the works.

**21. Accident:**

The Contractor shall, within 24 hours of the occurrence of any accident, at or about the work site or in connection with execution of the contract, report such accidents to the Engineer-In-Charge giving all the details in writing. He shall also provide additional information about the accident as requested by the EIC.

**22. Watch and ward:**

During the execution of the contract, it shall be the responsibility of the Contractor to arrange watch and ward of the work including the raw materials, machine/equipment/system used for the work at his own cost till the date of acceptance of the work by DEENDAYAL PORT AUTHORITY.

**23. Termination:**

The Board may, without any prejudice to any other remedy for breach of contract, by written notice of default sent to the Contractor, terminate the contract in whole or in part:

- (i) if the Contractor fails to execute the work within the period as specified in the contract or any extension granted by the Board;
- (ii) if the Contractor fails to perform any other obligation under the contract and if the contractor does not cure the same after receipt of a notice of default, the nature of default as well as the time within which the default has to be cured by the Contractor.

In the event of Board's termination of the contract in whole or in part, the Board may execute the remaining work or procure goods similar to those undelivered by the Contractor and the Contractor shall remain liable to the Board for any excess cost for such works or goods and risks, if any.

The Board will pay the Contractor, for all the items that are completed and ready for delivery, within 30 days after termination. The payment shall be made only after all the afore-mentioned goods are supplied to

and accepted by DEENDAYAL PORT AUTHORITY. The amount so decided by the Engineer-in-Charge in this regard shall be final and binding.

In case of termination of contract for default by the Contractor, the Board may not permit the Contractor to participate in any of the future tender of DEENDAYAL PORT AUTHORITY for a period decided by DPA.

The employer may terminate the contract if Contractor causes a fundamental breach of the contract.

Fundamental breaches of contract include, but shall not be limited to the following:

- a) The contractor stops work for 28 days and the stoppage has not been authorized by the Engineer-in-Charge or his nominee.
- b) The contractor becomes bankrupt.
- c) The contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the contract data and
- d) If the contractor, in the judgment of the employer has engaged in corrupt or fraudulent practices in competing for or in the executing the contract.
- e) For the purpose of this paragraph: "corrupt practice" means the offering, giving receiving or soliciting of anything of value to influence the action or public officials in the procurement process or in contract execution. "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. 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".
- f) If the contract is terminated the Contractor shall stop work immediately, make the site safe and secure and leave the site as soon as reasonably possible.
- g) Any material lying at site will not be removed without the prior written permission of Engineer In Charge.

## **24. Arbitration Clause:**

(I) Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or any other thing whatsoever, in any way arising out of or relating to the contract, designs, drawings,

specifications, estimates, instructions, orders, or to the conditions or otherwise concerning the work or regarding the execution or failure to execute the same whether arising during the progress of the work or after the completion thereof as described hereinafter shall be referred to the Chairman for sole arbitration by himself or by any officer appointed by him.

(II) It will be no objection to any such appointment that the arbitrator is an employee of the Board or the Government, that he had to deal with the matters to which the contract relates and that in the course of his duties as an employee of the Board of the Government, he had expressed views on all or any of the matters in dispute or of difference.

The arbitrator, who has been dealing with the arbitration case, being transferred or vacating his office or in the event of his death or being unable to act for any reason, the Chairman then holding the office shall arbitrate himself or appoint any officer to act as arbitrator.

(III) It is also a term of this contract that no person other than the Chairman himself or any officer appointed by him shall act as arbitrator.

(IV) It is a term of this contract that only such questions and disputes as were raised during the progress of other work till its completion and not thereafter shall be referred to arbitration. However, this would not apply to the questions and disputes relating to liabilities of the parties during the guarantee period after completion of the work.

(V) It is a term of the contract that the party invoking arbitration shall give a list of disputes with amount of claim in respect of each said disputes along with the notice seeking appointment of arbitrator.

(VI) It is also a term of the contract that if the Contractor does not make any demand for appointment of arbitrator in respect of any claims/disputes in writing, as aforesaid, within 120 days of receiving the intimation from the Engineer –in-charge that the final bill is ready for payment, the claim of the Contractor shall be deemed to have been waived and absolutely barred and the Port Trust shall be discharged and released of all liabilities under the contract in respect of these claims.

(VII) It is also a term of the contract that the arbitrator shall adjudicate only such disputes/claims as referred to him by the appointing authority and give separate award against each dispute/claim referred to him. The arbitrator will be bound to give claim wise detail and speaking award and it should be supported by reasoning.

(VIII) The award of the arbitrator shall be final, conclusive and binding on all the parties to Contractor.

(IX) The arbitrators from time to time, with the consent of both the parties, enlarge the time for making & publishing the award.

(X) Arbitration shall be conducted in accordance with the provisions of Indian Arbitration Act, 1996 or any statutory modifications or enactment thereof and rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

(XI) It is also a term of the contract that if any fees are payable to the arbitrator, this shall be paid equally by both the parties.

(XII) It is also a term of a contract that the arbitration shall be deemed to have been entered on the reference on the date he issues the first notice to both the parties calling them to submit their statement of claims and counter statement of claims.

(XIII) Venue of the arbitration shall be such place as may be fixed by the arbitrator at his sole discretion.

## **25. Indemnification:**

The Contractor shall indemnify, protect and defend at its own cost, DEENDAYAL PORT AUTHORITY and its agents & employees from & against any/all actions, claims, losses or damages arising out of

- a. any violation by the Contractor in course of its execution of the contract of any legal provisions or any right of third parties;
- b. Contractor's failure to exercise the skill and care required for satisfactory execution of the contract.

## **26. Engineer-in-Charge or his nominee's Decisions**

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

## **27. Delegation**

The Engineer-in-Charge 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.

## **28. 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).



## **29. Personnel:**

The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in-Charge. The Engineer-in-Charge will approve any proposed replacement of Key personnel only if their qualifications, abilities, and relevant experience are substantially equal or better than those of the personnel listed in the Schedule.

If the Engineer-in-Charge 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.

## **30. Employer's Obligation (Modified as per Clause No. 4 under Special Conditions, Section-III)**

- (i) Electricity, water and land for execution of the work at site shall be provided on payment of applicable tariff of the employer subject to availability. If DPA is unable to provide electricity and water the same will be arranged by the contractor at his own cost.
- (ii) The employer will not provide Port Trust Quarters, during the tenure of contract.
- (iii) Administrative support only, for obtaining clearance from any statutory authority, shall be provided by the employer.
- (iv) On successful completion of all the obligations under the contract and on the request of the Contractor, the employer shall issue a "Completion Certificate with the approval of the Chief Mechanical Engineer, the employer.

## **31. Queries about the Technical Data**

The Engineer-in-Charge or his nominee will clarify queries on the Technical Data.

## **32. Approval by the Engineer-in-Charge or his nominee.**

The Contractor shall submit the makes of material, equipment's, specifications and drawings for proposed Work to the Engineer-in-Charge or his nominee, who is to approve them subject to compliance with the Technical specifications and drawings.

The Engineer-in-Charge or his nominee's approval shall not alter the Contractor's responsibility for the work.

All drawings prepared by the contractor for the work if any, are subject to prior approval by the Engineer In Charge or his nominee before procurement/execution.

### **33. Discoveries**

Anything of historical or other interest or of significant value unexpectedly discovered on the site is the property of the employer. The contractor is to notify the employer or his nominee of such discoveries and carry out the instructions of employer or his nominee for dealing with them.

### **34. Access to the site**

The contractor shall allow the Engineer in charge or his nominee and any person authorized by him 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 work.

### **35. Instructions**

The contractor shall carry out all instructions of the engineer or his nominee which comply with applicable laws where the site is located.

### **36. Safety**

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

## **Quality Control**

### **37. Identification of Defects**

The Engineer-in-Charge or his nominee shall check the work carried out by Contractor and notify the Defects found if any. The Engineer-in-Charge or his nominee may instruct the Contractor to rectify the Defect.

### **38. Correction of Defects**

The Engineer-in-Charge or his nominee shall give notice to the Contractor of any Defects before the end of the Defects Liability Period (Guarantee 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.

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

### **39. Uncorrected Defects**

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

### **40. Employer's right of Rejection:**

The employer shall reserve the right to reject a part portion or consignment thereof within a reasonable time after actual delivery thereof at the place of destination, if consignment is not in all respects in conformity with terms & conditions of the contract whether on account of any loss, deterioration or damage before dispatch or delivery or during transit or otherwise whatsoever.

### **41. Removal of Rejected goods:**

Rejected goods shall under all circumstances lay at the risk of the contractor from the moment of rejection and if such goods are not removed by the contractor within 21 days from the date of intimation from the Engineer-in-Charge. Engineer-in-Charge may either return to the contractor at the risk and cost of the contractor by such mode of transport as the Engineer-in-Charge may select or dispose of such material at the contractor's risk on his account and retain such portion of the sale proceeds as may be necessary to recover any expenses incurred in such disposals.

### **42. Use of Contract Document:**

The Contractor shall not, without prior consent, make use of any document except for the purpose of performing this contract.

### **43. Memorandum of Settlement:**

The Contractor shall not sign any memorandum of settlement with any agency such as Trade Unions etc. in any form at any level without the prior written permission of the employer in relation to any work under taken by him in the Port premises.

### **44. Deviations:**

The bidder must read the tender document carefully and prepare the bid for submission. It is important to note that deviations, if any, must be brought out clearly in the technical offer, which shall be examined

by DEENDAYAL PORT AUTHORITY. If the deviation statement submitted by the bidder does not contain any item, then it shall be construed that the bidder has accepted the same and no request from the Contractor, for any change, shall be accepted by DPA at a later stage. In any case, no change in specifications given in the tender agreement shall be permitted. However, only in unavoidable circumstances, DEENDAYAL PORT AUTHORITY may consider such requests from the Contractor, provided the Contractor submits its request with adequate justification.

#### **45. Approvals:**

The Engineer-in-Charge shall give specific approval in writing within 7 Days to Contractor after written submission regarding Makes of Material to be used for the Contract and Drawings, if any to be furnished by the Contractor to Engineer-in-Charge for approval. Any corrections to be suggested by Engineer-in-Charge in drawings, the days taken for rectification in drawings shall be in account of the Contractor.

#### **46. Third Party Inspection: (Modified as per clause no. 6 of SCC, Section-III)**

The Third Party Inspection Agency shall be arranged by DPA and cost of Third Party Inspection mentioned below shall be borne by DPA.

- i. The Third Party Inspection Agency will carry out approval of drawings if any, material inspection at manufacturer's works/site, dispatch clearance from manufacturer's work, certification for releasing stage payments as per payment terms of contract for all the material as per schedule/work till taken over by DPA.
- ii. The Third Party shall carry out inspection of work as per tender specification/relevant standard.
- iii. The above stage payment shall be released after certifying by the third party and copy of the same shall be produced by Contractor for releasing the stage payment as per **Payment Terms**.

#### **47. Bar Chart**

The Contractor shall submit a bar chart, before signing the agreement, clearly indicating the plan for timely execution of the work. The bar chart must indicate the individual activities and commencement and completion dates of each activity. The bar chart shall be used for monitoring the progress of the work.

**48. Engagement of Labour:**

The contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

**49. Police verification of Contract Labour:**

The Contractor who has been awarded the job through Work Order shall furnish necessary Police Clearance Certificate in respect of character and antecedents of all Contract Labourers engaged by them, before commencing the work at site.

This will be a part of Contractual Agreement, as entire Cargo Jetty, Oil Jetty area has been declared as **"Prohibited Area"**. Contractor who would be awarded contract is required to comply with the above requirements.

Contractor shall obtain such Police Clearance Certificate from Police available against a nominal fee per Certificate and they will submit this Certificate giving Work Order reference on it, to the Office of the Engineer In Charge of respective Divisions, to be forwarded to Commandant, CISF which our Security Department along with request for issuance of Entry Passes.

The Contractor shall, if required by the Engineer-in-Charge, deliver to the Engineer-in-Charge a return in detail, in such form and at such intervals as the Engineer-in-Charge may prescribe, showing the staff and numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer-in-Charge may require.

**a) Submission of Labour Reports by Every Fortnight:**

The contractor shall submit, by the 4<sup>th</sup> and 19<sup>th</sup> of every month, to the Engineer-in-Charge a true statement showing, in respect of the second half of the preceding month and the first half of the current month respectively.

1. The number of laborers employed by him on the work.
2. Their working hours.
3. The wages paid to them.

4. The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
5. The number of female workers who have been allowed Maternity Benefit, according to clause 19 F and the amount paid to them, failing which, the Contractor shall be liable to pay to Government a sum not exceeding Rs. 200/- for each default or materially incorrect statement. The decision of the Engineer-in-Charge shall be final in deducting from any bill due to the contractor the amount levied as fine and be binding on the contractor.

**b) No Labour Below 14 Years:**

No labour below the age of 14 (fourteen) years shall be employed on the work.

**50. Registers to be maintained at site**

**1. Site order Book:**

A site order book is to be maintained by the contractor at the site. The work orders and instructions written in the site order book shall be deemed to have been legally issued to the contractor shall sign each entry in the site order book as a token of his having seen the same. The site order book shall be property of the Board and shall be handed over to the Engineer-in-charge of the work in good condition on the completion of the work or whenever required by the Engineer-in-charge or his authorized representative.

**2. Hindrance Register**

Every type of hindrance arising during the execution of work should be invariably recorded in the hindrance register. The Hindrance Register is to be maintained by the Engineer in Charge at the site. The contractor shall sign each entry in the hindrance Register as a token of his having seen the same. The Hindrance Register shall be property of the Board.

**51. No damage, hindrance or interference to the Port activities:**

The contractor shall be required to execute the work in such a manner as not to cause any damage, hindrance or interference to the Port

activities and the work going on in the area. The contractor shall have to make good the loss at his own cost and risk all damages caused by his workmen to Port property and no extra payment shall be made to him on that account.

**52. Tools & Tackles:**

All the tools, tackles, bricks, cement, ladders etc. for executing the work will have to be arranged by the contractor at his own cost. Arrangement for storing the materials, tools etc. will also have to be made by him. The EMPLOYER shall not be responsible for any theft/loss of any materials, tools, etc. stored/brought by the contractor for execution of work within the Port area.

**53. Hot work:**

In case of carrying out any hot work such as gas cutting and welding necessary regulations, prevailing at DEENDAYAL PORT AUTHORITY for such works shall be observed by the tenderer and necessary fire watch permit and No Objection Certificate shall be obtained from the concerned authorities of the port and necessary charges at the scale of rate prevailing in the port at that time shall be paid by the contractor.

**54. Indian Dock Safety Regulations:**

Necessary Indian Dock Safety Regulations for the safety purpose shall be adhered to by the contractor and he will be held responsible for any violation of the same.

**55. Valid Electrical Contractor License and Electrical Supervisor Certificate (The clause is modified as per clause no.07 of SCC, Section-III)**

The contractor shall have valid electrical contractor's license for carrying out electrical work of nature involved in this tender obtained from the Commissioner of Electricity, Energy & Petrochemical Department, (Inspection wing), Block No. 18, 6 th floor, Sector No. II, Udyog Bhavan, Gandhinagar, Government of Gujarat without which the tender shall not be accepted.

Contractor shall submit certificate and copy of the license in lieu of the same for consideration. (This clause has also been included in pre-qualification criteria) The contractor shall also have a valid Electrical Supervisor's certificate of competency, issued from the Commissioner of Electricity, Energy & Petrochemical Department, (Inspection wing), Block No.18, 6 th floor, Sector No. II, Udyog Bhavan, Gandhinagar, Government of Gujarat or equivalent authority from the other states/central Govt.

**56. Action where no Specifications are specified:**

The work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in- Charge.

**57. Undertaking by the Contractor:**

Having understood all the terms and conditions of the tender document and having assessed the site conditions, we hereby confirm that the price offered by us is a firm price and includes all the taxes(excluding GST), duties, fees, Cess etc. and all incidental charges.

**58. Labour License:**

The contractor will have to obtain necessary License from Assistant Labour Commissioner (ALC), Gopalpuri, Gandhidham (Kutch), in case he is engaging ten or more workers on any day during execution of work.

**59. Fraudulent documentation by bidders:**

Submission of fraudulent documents shall be treated as major violation of the tender procedure and in such cases the Port shall resort to forfeiture of EMD (if any)/SD/BG of the bidder, apart from blacklisting the firm for the next 3 years.

**Signature & Seal  
of Contractor**

**Suprintending Engineer (E)  
Deendayal Port Authority**



## **SECTION –III**

### **SPECIAL CONDITIONS**

**(These special conditions will supersede the General Condition and ITB wherever applicable.)**

1. Clause No. 6 of Instructions to Bidders (ITB), Section-I is not applicable.
2. The Clause No. 7 of General Condition of Contract (GCC), Section-II is modified and shall be read as under:

#### **Payment Terms:**

All payments shall be made in Indian rupees unless specifically mentioned.

- i. **Payment shall be release of 70% of Supply** item rate against receipt of material at site in good condition after obtaining insurance cover as per tender condition and after inspection & acceptance of material by DPA & Certification by Third Party Inspection Agency (TPIA).
- ii. 20% of supply item rate after completion of erection, installation, testing and commissioning, etc. and 90% of item rate for item covers only laying/fixing etc. & certification by Third Party Inspection Agency (TPIA).
- iii. 10% will be released after successful completion of whole work and handing over to DPA & certification by TPIA.

#### **NOTE:**

The payment shall be made through RTGS /NEFT and the Contractor should be furnished following details: -

Bank Payment Agreement Form

- a. Name of Party
- b. Account No.
- c. Branch Name
- d. Branch Station
- e. IFSC code of the bank
- f. MICR co
- g. Accepted for:- NEFT payment or RTGS payment

Declaration by the party

I/We hereby declare that the above information furnished by me is correct and DPA is requested to pay my / our dues to this account for this work is concerned.

Signature of the party with the seal

Declaration by the bank

It is hereby informed that the details mentioned by the party is correct as per our records and any payment made by DPA to this account will

be accepted either by RTGS/NEFT.

Signature of the bank manager with the seal.

3. The Clause No. 8 of General Condition of Contract (GCC), Section-II is modified and shall be read as under:

**Insurance:**

3.1 The contract shall provide in the joint names of the employer and the contractor, insurance cover from the start date to the end of guarantee period for the following events which are due to the contractor risk:

- a) loss of or damage to the works, plant and materials
- b) loss of or damage to equipment
- c) loss of or damage of property (except the works, plant, materials and equipment) in connection with contract, and
- d) personal injury or death.

3.2 All the materials shall stand insured from the time of arrival at site till commencement of erection against fire, pilferage, damage and against natural calamities for the value of 90% of each item.

3.3 During erection and till the work is completed and satisfactory taken over by the DPA 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.

4. The Clause No. 14 of General Condition of Contract (GCC), Section-II is modified and shall be read as under:

**Guarantee:**

The guarantee period shall be valid up to 18 (Eighteen) months with effect from the date of acceptance of the materials by DPA or 12 (twelve) months from the date of installation, whichever is earlier.

The Contractor shall warrant the Board that the goods and services under this contract will comply strictly with the contract, shall be first class in every particular case and, shall be free from defects. The Contractor shall further warrant the Board that all materials, equipment and the supplies furnished by him will be new and fit for their intended purposes.

The Board shall promptly notify the Contractor in writing of any claim arising under this Warranty. Upon receipt of such notice, the Contractor shall promptly repair or replace the defective goods and/or services at no cost to the Board. If the Contractor, having been notified, fails to rectify the defects in accordance with the contract, the Board may proceed to take such remedial action as may be necessary, at the Contractor's risk and cost.

5. The Clause No. 30 of Section-II is replaced as under-  
**Employer's Obligation:** For execution of the work electricity will be provided free of cost to contractor as per DPA Norms.
6. The Clause No. 46 of Section-II is modified as under –  
**Third Party Inspection:**  
DPA shall appoint the TPIA for monitoring the work, if any observations/queries are made by Third Party Inspection Agency; the same shall be complied by Contractor before the next schedule visit. The TPIA will check and certify the same. Payment for subsequent RA bill may withhold if any quarries raised by TPIA are not complied by Contractor (under the scope of works). The charges incurred for Third Party Inspection Agency will be borne by DPA.
7. The clause no. 55 of GCC of Section-II is modified and shall be read as under  
**Valid Electrical Contractor License and Electrical Supervisor Certificate:** The contractor shall have valid electrical contractor's license issued by their respective state for carrying out electrical work of nature involved in this tender. The contractor shall also have a valid Electrical Supervisor's certificate of competency, issued from the Commissioner of Electricity, Energy & Petrochemical Department, (Inspection wing), Block No.18, 6 th floor, Sector No. II, Udyog Bhavan, Gandhinagar, Government of Gujarat or equivalent authority from the other states/central Govt
8. **Integrity Pact:**  

The Integrity Pact duly signed by authorized person(s) with witnesses are to be submitted by the bidders along with the tender documents as per the format provided in Section IV.

Bidders are required to sign the integrity pact (as per given below with the tender document), failing which their bid shall be liable for rejection. The "principal" means "Deendayal Port Authority" and "Counterparty" means "Vendor / Supplier / Contractor".

If a Counterparty commits a violation of its Commitments and Obligations under the Integrity Pact Program during bidding process, their entire Earnest Money Deposit, would be forfeited and in addition, they may be blacklisted from the DPA business in future.

In case of violation of the Integrity Pact by Counterparty after award of the Contract, DPA shall be entitled to terminate the contract. DPA would forfeit the Security Deposits; encase the Bank Guarantee(s) and other payments to Counterparty in such cases.
9. The contractor/service provider/supplier etc. has to ensure timely and proper filling of GSTR1 so that Deendayal Port Authority can avail input tax credit in timely manner. In case DPA not allowed input tax credit due to failure on part

of the contractor/service provider/supplier etc., it will be a financial loss to the DPA and therefore same shall be recovered from the payment/deposit of the contractor/service provider/supplier.

**Signature & Seal  
of Contractor**

**Suprintending Engineer (E)  
Deendayal Port Authority**

## SECTION IV

### FORMS OF BID

#### Part – I

#### To be submitted by Bidders with their Bids

NOS. OF FOMAT	NAME OF FORMS/FORMAT
1	Form of application
2	Pre-qualification of bidders
3	Format for declaration
4	Letter of authority for submission of bid
5	Exceptions & Deviations
6	Integrity Pact

#### Part – II

#### To be used by successful Bidder

NOS. OF FORMAT	NAME OF FORMS/FORMAT
7	Letter of intent
8	Agreement form
9	Certificate of classification society
10	Certificate of manufacturer
11	Specimen bank guarantee of Performance Guarantee/Security Deposit
12	Letter of authority from bank for all BGs
13	Format of Extensions (Part – I)
14	Format of Extension (Part-II)

**Form -1**

**SPECIMEN OF APPLICATION**

(To be executed on bidder's letter head)

To

The EXECUTIVE ENGINEER

DEENDAYAL PORT

AUTHORITY

(Address\_\_\_\_\_)

\_\_\_\_\_

Pin Code:\_\_\_\_\_

Dist- Kutch (Gujarat)

We, the undersigned, declare that:

(a) we have examined and have no reservations to the tender documents, including addenda and clarifications issued vide .....

(b) we offer to execute the work in conformity with the tendering documents and in accordance with the delivery schedules specified in the schedule of requirements in accordance with the tender document bearing no **(insert No.)**

(c) our tender shall be valid for the period of 120 days ,from the date fixed for the tender submission deadline and it shall remain binding upon us and may be accepted at any time before the expiration of that period or any extended period.

(d) If our tender is accepted, we commit to submit a performance guarantee for the due performance of the contract, as specified in specimen form for the purpose.

(e) No Joint Venture / Joint Venture.

- (f) Our firm, its affiliates or subsidiaries- including any subcontractors or contractors for any part of the contract – has not been declared ineligible by the port, under laws of India or official regulations.
- (g) We understand that this tender, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract agreement is prepared and executed.
- I. We understand that you are not bound to accept the lowest evaluated tender or any other tender or you can also split the work that you may receive.
  - II. We also make a specific note clause of [ITB, NIT] under which the contract is governed.

Signed: [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the form of tender]

Name:[insert complete name of person signing the form of tender]

Duly authorized to sign the tender for and on behalf of: [insert complete name of tenderer]

Dated on\_\_\_\_\_day of\_\_\_\_\_,\_\_\_\_\_ (insert date of signing)

**Form -2****Specimen format for Pre-qualification of bidders**

The information to be filled in by the bidder in the following pages will be used for purposes of pre-qualification as provided for in the instructions to Tenderer.

**1. Only for individual bidders**

Constitution of legal status of Bidder (Attach copy)

- Place of registration:
- Principal place of business
- (power of attorney of signatory of Bid (Attach)

**2. Turnover of the Firm**

Description	Year	Turn over
(insert the year as per PQC) i.e. last three financial years ending 31st march of the previous year	2019-20	
	2020-21	
	2021-22	

Attachment: financial reports for the last three years: balance sheet, profit and loss statements, auditor's reports (in case of companies/corporation) etc. List them below and attach copies.

Attested Copy of Annual Turnover during Last Three Year Ending on **31st March of previous year.**

**3. Similar works**

Particulars	Year	No. of Woks	Value
Total value of completed Similar work as defined in the tender document during last 07 years.	2016-17		
	2017-18		
	2018-19		
	2019-20		
	2020-21		
	2021-22		
	<b>2022-23</b>		

Attachments: Supporting documents, viz., Successful completion certificate from clients, other documentations to substantiate the similarity of work as per definition of "Similar Work". Employer reserves the right to verify the information:



**4. Information on bid capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.**

**1. Existing commitments and on-going works.**

Description of work	Place & State	Contract No. & Date	Name & Address Of Port or Dept.	Value of Contract In (Rs.)	Stipulated Period Of Completion	Value of remaining work to be completed	Anticipated date of completion

**2. Works for which bids already submitted**

Description of work	Place & State	Name & Address of Port or Dept.	Value of Contract in Rs.	Stipulated Period of Completion	Date when decision is expected	Remarks if any
1	2	3	4	5	6	7

Attach attested certificates.

**5. Information on litigation history in which the bidder is involved.**

Other party (ies)	Port	Cause of dispute	Amount	Remark involved showing present status.

**6. Additional information bidder may like to submit**

Duly authorized to sign this authorization on behalf of: (insert complete name of Tenderer)

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ (insert date of signing)

## Tendering Forms

### Form-3

<b>SPECIMEN FORMAT FOR DECLARATION</b>
--

(To be executed on bidder's Letter Head)

To. \_\_\_\_\_

(Project title)

Ref: \_\_\_\_\_

The undersigned, having studied the pre-qualification submission for the above mentioned 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 bid 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 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 also state that no changes have been made by us in the downloaded tender formats and understand that in the event of any discrepancies observed, the tender hoisted on website of procure is full and final for all legal/contractual obligations.
- (f) We also declare that, our firm has not been banned / de-listed by any government or PSUs.
- (g) We also give an undertaking 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.

Date: \_\_\_\_\_ Place: \_\_\_\_\_

Name of Applicant: \_\_\_\_\_

Represented by (Name & capacity) \_\_\_\_\_

**Form-4**

**SPECIMEN LETTER OF AUTHORITY FOR**  
**SUBMISSION OF BID**

(To be executed on Rs.300/- non Judicial Stamp Paper)

To

The

Dear Sir,

We-----  
----- do hereby confirm that Shri..... (Name, designation and Address) is/are authorized to represent us to bid, negotiate and conclude the agreement on our behalf with you {copy of board resolution attached (in case of company)} for tender no. ----- for the work of \_\_\_\_\_ and his specimen signature is appended here to ..

We confirm that we shall be bound by all and whatsoever our said signatory shall commit.

We understand that the communication made with him by the employer/Board shall be deemed to have been done with us in respect of this Tender.

*[specimen signature]*

Yours faithfully,

Signature:

Name & Designation:

For & on behalf of:

**Form-5****EXCEPTIONS AND DEVIATIONS**

As pointed out in the Tender Call Notice, Bidder may stipulate here exceptions and deviations to the bid conditions, if considered unavoidable.

<b>Sr. No.</b>	<b>Page No. of Bid Document</b>	<b>Clause No. of Bid Document</b>	<b>Subject Deviation</b>

Note: however, the Bidders may note that unacceptable deviations, if any, the bid shall be liable for rejection. Bidder is discouraged to deviate from bid conditions, specifications, delivery schedules, and commercial terms as per the tender document.

Duly authorized to sign this authorization on behalf of: [insert complete name of Tenderer]

Date on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ [insert date of signing]

**INTEGRITY PACT BETWEEN**

Deendayal Port Authority (DPA) hereinafter referred to as “The Principal” AND

(Name of the bidder and consortium members) hereinafter

referred to as “the Bidder/Contractor”

**Preamble**

The Principal intends to award, under laid down organizational procedures, contract(s) / concession(s) for Tender No. .... The Principal values full compliance with all relevant laws of the land rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

**Section 1 - Commitments of the Principal**

The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

(a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

(b) The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

(c) The Principal will exclude from the process all known prejudicial persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC / PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

**Section 2 - Commitments of the Bidder / Contractor**

The Bidder(s) / Contractor(s) commits themselves to take all measures necessary to prevent corruption. The Bidder(s) / Contractor(s) commits themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in tender process or the execution of the contract or to any third person any material or other benefit, which he / she is not legally entitled to, in order to obtain in exchange of advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidder(s) / Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids, or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s) / Contractor(s) will not commit any offence, under the relevant Prevention of Corruption Act / Indian Penal Code / PC Act; further the Bidder(s) / Contractor(s) will not use improperly, for purposes of competition, or personal gain, or pass on to others, any information or document provided by the Principal, as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d. The Bidder(s) / Contractor(s) of foreign origin shall disclose the name and address of the Agents / Representatives in India, if any. Similarly, the Bidder(s) / Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s) / Contractor(s). Further, as mentioned in the Guidelines all the payments made to Indian agent / representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed at (page Nos. 7-20)

e. The Bidder(s) / Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries, in connection with the award of the contract.

f. Bidder(s) / Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

**(2) The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.**

### **Section- 3 Disqualification from tender process and exclusion from future contracts.**

**If the Bidder(s) / Contractor(s), before award or during execution has committed a transgression through a violation of Section-2 above, or in any other form, such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder (s) / Contractor(s), from the tender process, or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings". Copy of the "Guidelines on Banning of business dealings" is placed at (Page No. 7-20).**

### **Section-4 Compensation for Damages**

**If the Principal has disqualified the Bidder(s), from the tender process prior to the award, according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit / Bid Security.**

**If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor, liquidated damages of the Contract Value or the amount equivalent to Security Deposit / Performance Bank Guarantee, whichever is higher.**

**The Bidder(s) agrees and undertakes to pay the said amounts, without protest or demur, subject only to condition that, if the Bidder(s) / Contractor(s) can prove and establish that the termination of the contract, after the contract award has caused no damage or less damage than the amount of the liquidated damages, the Bidder/Contractor shall compensate the principal, only to the extent of the damage in the amount proved.**

### **Section-5 Previous transgression**

The Bidder declares that, no previous transgressions occurred in the last three years with any other company in any country confirming to the anti-corruption approach or with any other Public Sector Enterprises in India, that could justify his exclusion from the tender process.

If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of Business dealing".

#### **Section-6 Equal treatment of all Bidders / Contractors**

In case of a Joint Venture, all the partners of the Joint Venture will enter into agreement with identical conditions as this on which all Bidders.

There is no provision of sub-contract in the tender, any violation of the same, Contractor shall be held solely responsible for the same.

#### **Section-7 - Criminal charges against violating Bidders / Contractors**

If the principal obtains knowledge of conduct of a Bidder/Contractor or Subcontractor, or of an employee, or a representative, or an associate of a Bidder/Contractor, or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion, in this regard, the Principal will inform the Vigilance office.

#### **Section-8 External Independent Monitor**

The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

The Monitor is not subject to instructions by the representative of the parties and performs his / her functions neutrally and independently. The Monitor would have access to all Contact documents, whenever required. It will be obligatory for him / her to treat the information and



documents of the Bidders / Contractors as confidential. He / she reports to the Chairperson of the Board of the Principal.

The Bidder(s) / Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Bidder / Contractor will also grant the Monitor, upon his / her request and demonstration of a valid interest, unrestricted and unconditional access to the project documentation. The Monitor is under contractual obligation, to treat the information and documents of the Bidder / Contractor with confidentiality.

The Monitor is under contractual obligation to treat the information and documents of the Bidder(s) / Contractor(s) with confidentiality. The Monitor has also signed declaration on "Non-Disclosure of Confidential Information" and of "Absence of Conflict of Interest". In case of any conflict of interest arising at a later date, the IEM shall inform Chairman, DPA and recues himself / herself from that case

The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder / Contactor. The parties offer to the Monitor the option to participate in such meetings.

As soon as the Monitor notices, or believes to notice, a violation of this agreement, he / she will so inform the Management of the Principal and request 5 the management to discontinue, or take corrective action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

The Monitor will submit a written report to the Chairperson of the Board of the Principal, within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

If the Monitor has reported to the Chairperson of the Board of the Principal, a substantiated suspicion of an offence under relevant IPC / PC Act and the Chairperson of the Board of the Principal has not, within reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

The word "Monitor" would include both singular and plural.

## **Section-9 Pact Duration**

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidder and exclusion from future business dealings.

If any claim is made / lodged during this time, the same shall be binding and continue be valid despite the lapse of this Pact as specified above, unless it is discharged / determined Chairperson of the Principal.

The Pact duration in respect of unsuccessful Bidders shall expire after 6 months of the award of the contract

#### **Section-10 Other Provisions**

This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Gandhidham, Gujarat.

Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

If the Bidder / Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

Should one or several provisions of this agreement, turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

---

(For & on behalf of the **Principal**)

---

(For & on behalf of the Bidder/Contractor)

(Office Seal)

(Office Seal)

Place: Gandhidham

Date: \_\_/\_\_/2023

Witness-1:

(Name & Address)

Witness-2 :

(Name & Address)

**Form-7****LETTER OF INTENT FORMAT**

No: \_\_\_\_\_

Date: \_\_\_\_\_

To \_\_\_\_\_

(Name and Address of the Contractor)

Sub: Tender No. EL/AC/ \_\_\_\_\_

(Name of Work)

Ref : Your bid dated

And (list the correspondence with the Bidder)

Dear Sirs,

With reference to your above offer and subsequent correspondences on the subject, we are pleased to inform you that your offer has been accepted by the competent authority and you are hereby requested to initiate actions for fulfilment of all necessary formalities, as indicated in the tender document for the above said work, at the earliest.

The Engineer-In-Charge for this work shall be Mr.

\_\_\_\_\_.  
Agreed Schedule date of commencement of the work is \_\_\_\_\_  
and Schedule date of completion of the work is \_\_\_\_\_. Total  
Contract Price is Rs. \_\_\_\_\_.

You are requested to sign the Agreement and fulfil other formalities as per the Tender conditions.

**Yours Faithfully,****(Signature of the controlling Officer)****CHIEF MECHANICAL ENGINEER****DEENDAYAL PORT AUTHORITY**

**Form-8****SPECIMEN CONTRACT AGREEMENT**

(To be executed on Rs.300-non-judicial stamp paper)

[The successful tenders shall fill in this form in Accordance with the instructions indicated]

This agreement made of this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand between the Board of Deendayal Port Authority a body corporate under Major Port Authorities Act, 2021 having its Administration Office Building at Gandhidham(Kutch) (hereinafter called the 'Board' which expression shall unless excluded by or repugnant to the context, be deemed to include their successors in office) of the one part and \_\_\_\_\_ (Name and address of all the partners if a partnership with all their address) hereinafter called the 'Contractor' which expression shall unless excluded by or repugnant to the context be deemed to include his / their heirs, executors, administration , representatives and assignees or successors in office of the other part.

WHEREAS the Board is desirous to carrying out the work of \_\_\_\_\_

And whereas the Contractor has offered to execute and complete such work.

AND WHEREAS the contractor has agreed to if any arbitration award shall be referred to Conciliation Committee / Council comprising of independent subject experts. The award by the Conciliation Committee / Council shall be placed before the Board of Trustee for consideration if agreed by both the party.

WHEREAS the Contractor has deposited a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as security deposit in the form of \_\_\_\_\_ and / or agreed to deposit the security deposit as follows for the due fulfillment of all the conditions of the contract.

- 1) Rs. \_\_\_\_\_ paid in DD/BC/PO/BG towards security deposit, and
- 2) Balance amount of Rs. \_\_\_\_\_ to be recovered from the work bills.

NOW THIS AGREEMENT WITHINESS AS FOLLOWS:-

1. In this agreement words and expression shall have the same meaning as are respectively as signed to them in the general condition (including special conditions, if any) of contract hereinafter referred to.
2. The following documents shall be deemed to form and read as construed part of this agreement viz.:
  - i) Notice inviting tender.
  - ii) Technical specifications.
  - iii) Special conditions of contract.
  - iv) Tender submitted by the Contractor.

- v) The Board's "Drawing".
- vi) The schedule items of work with quantities and rates.
- vii) Any correspondence made between the Superintending Engineer (E) and the Contractor after opening of the cover-I—as regards to contain clarifications/details called for vice versa.
- viii) Common terms and conditions offered to Contractor and their acceptance including confirmation to withdrawal of their own terms and conditions offered with the tender i.e. 'Cover-I'.
- ix) Bank Guarantee for security deposit.

3. The Contractor hereby covenants with the Board to complete the work of \_\_\_\_\_ in conformity in all respects, with the provisions of the contract.

4. The Board hereby covenants to pay the Contractor in consideration of such completion of the works, the contract price of Rs. (Rupees\_only) at the time and in the manner prescribed of the contract.

IN WITNESS WHERE of the parties here unto have set their hands and seals the day and year first above written signed and sealed by the Contractor in the presence of:-

Witness

1. Name & Address \_\_\_\_\_ Signature of Contractor  
Seal

2. Name & Address \_\_\_\_\_

Seal

Signed, sealed and delivered by Shri \_\_\_\_\_ on  
behalf of the Board in presence of

1. \_\_\_\_\_

2. \_\_\_\_\_

(Chief Mechanical Engineer)  
DEENDAYAL PORT  
AUTHORITY

The common seal of the Board of Deendayal Port Authority affixed in the presence of:

1. \_\_\_\_\_

2. \_\_\_\_\_

Secretary  
DEENDAYAL PORT  
AUTHORITY

**Form-9**

**(Applicable in case Procurement of Equipments)**

**(CERTIFICATE ISSUED BY THIRD PARTY AGENCY ON THEIR LETTER  
HEAD)**

**To,**

**M/s DEENDAYAL PORT AUTHORITY,**

**Kandla (Kutch)**

**Gujarat,**

**INDIA.**

**This is to certify that the (name of equipment) designed, manufactured and supplied to DEENDAYAL PORT AUTHORITY are conforming with the Quality Assurance and Standards as per proven design and Model No./Drawings submitted by M/s \_\_\_\_\_ in the Tender No. (insert tender no.) of DEENDAYAL PORT AUTHORITY.**

**Signature & Seal of Authorized**

**Representative of Classification Society.**

**Form-10**

**(Applicable in case Procurement of Equipments)**

**(CERTIFICATE ISSUED BY MANUFACTURER ON THEIR LETTER HEAD)**

**To,**

**M/s DEENDAYAL PORT AUTHORITY,**

**Kandla (Kutch)**

**Gujarat,**

**INDIA.**

**This is to certify that the proven design submitted with Bid conforms with all the standards and generic specifications of (name of equipment) given at Page No.\_\_\_\_\_of the Tender No. (Insert tender no.) of DEENDAYAL PORT AUTHORITY.**

**Signature & Seal of Authorized**

**Representative of the Manufacturer**



## Form-11

**SPECIMEN BANK GUARANTEE TOWARDS**  
**PERFORMANCE GUARANTEE/SECURITY DEPOSIT**  
 (To be executed on Rs. 300/- non-judicial Stamp Paper)

To,

The Board of DEENDAYAL PORT AUTHORITY  
 A.O. Building, P.O. Box No.50,  
Gandhidham-Kutch.

1. In consideration of the Board of Deendayal Port Authority incorporated by the 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 the Board of Deendayal Port Authority, its successors and assigns) having agreed to exempt \_\_\_\_ (hereinafter called the "contractor") (Name of the contractor/s) from the demand under the terms and condition of the contract, vide \_\_\_\_\_ (Name of the Department)'s letter No. \_\_\_\_\_ Date \_\_\_\_\_ made between the contractors and the Board for execution of \_\_\_\_\_ covered under Tender No. \_\_\_\_\_ dated \_\_\_\_ (hereinafter called "the said contract") for the payment of Security Deposit in cash or Lodgment of Government Promissory Loan Notes for the due fulfillment by the said contractors of the terms and condition of the said contract, on production of a bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only we, the (Name of the Bank and Address) \_\_\_\_\_ 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 \_\_\_\_\_) only against any loss or damage 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 Bank) (Name of Branch), do hereby Undertake to pay the amount 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 contractors 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 any amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only.
3. We, \_\_\_\_\_ (Name of Bank and Branch), undertake to pay to the Board any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending 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(s) shall have no claim against us for making such payment.

4. We, \_\_\_\_\_ (Name of Bank and Branch), 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 performance of the said contract and that 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 \_\_\_\_\_ (Name of the user department) of the said certifier 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. PROVIDED HOWEVER 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 Bank and Branch), 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 contract or to extend the time of performance by the said Contractors from time to time or to postpone for 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 extensions 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 not be discharged due to the change in the constitution of \_\_\_\_\_ the Bank or the Contractor(s).

7. It is also hereby agreed that the Courts in [insert city] would have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

8. We, \_\_\_\_\_ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.

9. Notwithstanding anything contained herein:

(a) Our liability under this Bank Guarantee shall not exceed Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only);

(b) This Bank Guarantee shall be valid upto \_\_\_\_\_; and

(c) We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before \_\_\_\_\_ (date of expiry of Guarantee)."

10. (i) Name of Beneficiary's Bank is State Bank of India, Gandhidham.

(ii) IFSC No. of Beneficiary's Bank is SBIN0060239.

(iii) Bank Account No. of Beneficiary is 10316591671.

Date \_\_\_\_ day of \_\_\_\_\_ 20\_\_

For (Name of Bank)  
(Name)  
Signature

**Form-12****SPECIMEN LETTER OF AUTHORITY FROM BANK****FOR ALL BGs**

(To be executed on Bank's Letter Head)

Date:

To,

The Board of Trustees of Port [insert port],

Dear Sir,

Sub: Our Bank Guarantee No. \_\_\_\_\_

dated \_\_\_\_\_ or Rs. \_\_\_\_\_ favoring yourselves

issued on a/c of

M/s. \_\_\_\_\_

(Name of contractor)

.....

We confirm having issued the above mentioned guarantee favoring yourselves, issued on account of M/s. \_\_\_\_\_ validity for expiry upto date \_\_\_\_\_ and claim expiry date up to \_\_\_\_\_ We also confirm 1) \_\_\_\_\_ 2) \_\_\_\_\_ is/are empowered to sign such Bank Guarantee on behalf of the Bank and his/their signatures is/are binding on the Bank.

Name of signature of Bank Officer

Form-13

**DEENDAYAL PORT AUTHORITY****Form of application by the Contractor for seeking extension of time****Part – 1**

1. Name of Contractor
2. Name of work as given in the agreement
3. Agreement No.
4. Estimated amount put to tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated in agreement
8. Period for which extension of time has been given previously:
  - (a) 1<sup>st</sup> extension vide EE's No.      Dated      Month      Days
  - (b) 2<sup>nd</sup> extension vide EE's No.      Dated      Month      Days
  - (c) 3<sup>rd</sup> extension vide EE's No.      Dated      Month      Days
  - (d) 4<sup>th</sup> extension vide EE's No.      Dated      Month      Days Total
 extension previously given.
9. Reasons for which extensions have been previously given (Copies of the previous application should be attached)
10.      Period for which extension is applied for
11.      Hindrance on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last.
  - (a)      Serial No.
  - (b)      Nature of hindrance
  - (c)      Date of Occurrence
  - (d)      Period for which it is likely to last
  - (e)      Period for which extension required for this particular hindrance
  - (f)      Overlapping period if any, with reference to item.....
  - (g)      Net extension applied for
  - (h)      Remarks, if any.
 Total period on account of hindrance mentioned above.....  
 Month...Days
12.      Extension of time required for extra work
13.      Details of extra work and amount involved:
  - (a)      Total value of extra work
  - (b)      Proportionate period of extension of time based on estimated amount put to tender on account of extra work.
14. Total extension of time required for 11 & 12  
 Submitted to the Sub-Divisional Officer.....

**Signature of Contractor**  
**Dated:**

**Form-14****DEENDAYAL PORT AUTHORITY****APPLICATION FOR EXTENSION OF TIME****PART II****(To be filled in by the Sub-Divisional Office)**

1. Date of receipt of application from ..... Contractor for the work of ..... in the Sub-Divisional Office.
2. Acknowledgement issued by S.D.O. vide his No ..... dated .....
3. Remarks of S.D.O.  
(on the reasons given by the contractor are correct and what extension, if any, is recommended by him. If he has not recommended the extension, reasons for rejections should be given.)

Signature of Divisional Officer  
Dated:

**(To be filled in by the Executive Engineer)**

1. Date of receipt in the Divisional Office.
2. Executive Engineers remarks regarding hindrances mentioned by the Contractor.

- (1) Serial No.
- (2) Nature of hindrance
- (3) Date of occurrence
- (4) Period for which hindrance is likely to last
- (5) Extension of time applied for by the contractor
- (6) Overlapping period, if any, giving reference to Items which overlap.
- (7) Net period for which extension is recommended
- (8) Remarks as to why the hindrance occurred  
And justification for extension recommended.

3. Executive Engineer's recommendations:  
(The present progress of the work should be stated and whether the work is likely to be completed by the date upto which extension has been applied for. If extension of time is not recommended, what compensation is proposed to be levied under clause 2 of the agreement?)

Signature of Executive Engineer  
Date

Dy. HOD/SE's recommendations

Signature of Superintending Engineer  
Date

HOD's recommendations/approval.

Signature of Chief Mechanical Engineer  
Date

## **SECTION V**

### **SCOPE OF WORK**

The Deendayal Port Authority (DPA) is one of the Major Ports in India; The Specifications are intended for the supply of power to 2 nos. of 16 Ton & 3 nos. of 25 Ton capacity ELL wharf crane make MBE at berth no. 2 to 4 and 2 nos. 63 Ton, 4 nos. 120 Ton capacity Mobile Harbour cranes at berth no. 6 to 10 and berth no. 13 to 16. The cranes are operated round the clock and utilized for various types of bulk and loose cargo handling & operation. For implementation projects under maritime vision for port electrification i.e providing power supply to jetty through cabling and plug point arrangement.

#### **1.0 GENERAL:**

- 1.1 All equipment and material shall be designed manufactured and tested in accordance with the latest applicable IEC standard.
- 1.2 Equipment and material conforming to any other standard, which ensures equal or better quality, may be accepted. In such case copies of English version of the standard adopted shall be submitted.
- 1.3 The electrical installation shall meet the requirement of Indian Electricity Rules-1956 as amended up to date; relevant IS code of practice and Indian Electricity Act-1910. In addition, other rules and regulations applicable to the work shall be followed. In case any discrepancy, the most stringent and restrictive one shall be binding.
- 1.4 The high-tension switchgear offered shall in general comply with the latest issues including amendments of the following standards but not restricted to them.

#### **2.0 Scope of Work: -**

The scope of work comprises of the following:

- 2.1 The work involves providing 11KV power supply plug point at the wharf area to provide power supply to mobile harbor crane under green revolution.
- 2.2 The work includes supply at site, Installation, testing & Commissioning of Compact Sub Station, Ring Main units' outdoor type SF6 filled, with various combinations of load break isolators & breakers. with associated equipment including civil work,
- 2.3 The RMUS should be Modular, extensible type on both sides with provision of attaching/connecting with SNAP FIT arrangement W/o External Busbars additional load break switches and circuit breakers in future whenever required. However, RMU shall be extensible on both side however left side is occupied by metering panel and right side is free for extension on vice versa is also possible depending on site condition. Alternatively, Extension shall be possible by adding trunking chambers and required accessories or by plug-in bushing type arrangement.

## 2.4 Configurations Required: -

### **11KV RMU**

- a) 4-way- 11KV Gas (SF6) Insulated RMU with 2Nos 630A Load break switches and 2Nos. SF6 Insulated VCB of suitable rating – or 3 Nos 630A Load break switches and 1Nos, SF6 Insulated VCB of suitable rating.
- 2.5 Supply, Erection/ Installation Testing & Commissioning of for L.T power supply to tower and non- residential building near wharf side.
- 2.6 Supply, erection, testing & commissioning of 11KV Power Plug Point Switch Board Panel over RCC Pillar on the wharf site the location will be finalized as directed by Engineer – in – Charge.
- 2.7 Supply, Laying & end termination of HT, 11 KV XLPE (E) armoured cable with aluminium conductor of size 3 C X 150 sq.mm from the nearest Substation / Isolator Room to RMU unit & Compact Substation.
- 2.8 Supply, Laying & end termination of 3C x 50 sq. mm + 3C x 16/3 sq. mm, 11 kV (E) grade EPR insulated copper flexible round trailing cable as per IS:9968/Part-II/2002.
- 2.9 Earthing system for the entire work.
- 1.6 After successful completion of whole work in all respect to carry out testing and commissioning of the complete work to the entire satisfaction of Deendayal Port Authority.
- 1.7 The broad details of each item of the work are shown in the Schedule "B" attached herewith.
- 1.8 The Compact Substation designed shall confirm the following standard technical requirements. The Insulation values shall be enhanced considering the altitude of operation & Site atmospheric conditions.

## **3.0 SITE INFORMATION:**

### **a. CLIMATIC CONDITIONS**

The climate at Kandla is hot, humid, dusty and salt laden, conducive to rust. During summer, the temperature varies from 25 C to 44 C and in winter, which is mild from 10 C to 25 C. Kandla falls under scanty rainfall zone.

### **b. AIR TEMPERATURE**

The minimum ambient air temperature at Kandla is 10C and the maximum ambient air temperatures observed are 45C (Outdoor) and 40C (Indoor).

### **c. WIND PRESSURE**

Wind velocity of 25 to 60 Kmph is common on any day, specially during summer (March to September). The maximum wind velocity recorded is 180 to 200 Kmph. The direction and the average wind speed observed are as under

Period	Direction	Average Speed
* October – March	North – East	10 Kmph
* April – May	South – East	20 Kmph
* June– September	South – West } North – East }	60 Kmph

**d. SEISMIC FORCE**

Kandla falls under Seismic Zone No – V, as per IS:1893.

**e. RAINFALL**

Rainfall in Kandla is very low, Between January and April, there is normally no rainfall. Rainfall mainly remains confined between June and August. During the remaining months, the rainfall is scanty. The average annual rainfall is around 200 mm only. However, there have been years when the rainfall was heavier, though such occasions are not common.

**f. RELATIVE HUMIDITY.**

The relative humidity at Kandla is of the order of about 70 %.

## **TECHNICAL SPECIFICATIONS**

### **Technical Specification for Item No. 1**

Design, manufacture and supply of Outdoor Mounted Compact Substation of 11KV/415 Volts, equipped with 500kVA Cast Resin Transformer, 3 way 11kV Ring Main Unit consisting of 2 nos. 630A at 11kV fault making load breaking switch with one no tee-off as SF6 Circuit Breaker for the primary side controls & with MV 800A Air Circuit Breaker as secondary side control as detailed below.

#### **The Outdoor Package**

- Single integrated metal housing, comprising three compartments accommodating:

MV switchgear (Protection degree of this compartment: IP54)

Transformer (Protection degree of this compartment: IP31)

#### **LV switchgear (Protection degree of this compartment: IP54)**

Enclosure of Compact Substation:

The Outdoor enclosure of compact Substation shall be fabricated from Galvanized sheet steel 2mm thick build on heavy channel skid frame tropicalized to local weather conditions.

Four nos. of Lifting lugs to be provided on top to enable lifting total package unit without any problem for site handling / lifting by crane. The metal base shall ensure rigidly for easy transport and installation to withstand the weight of the Transformer, MV & L.V component.

Ventilation openings shall be so arranged or shielded that same degree of specified for enclosure is obtained to reduce the equipment ambient temperature and prevent heating through the roof due to sun radiation the roof is to be made of double layer with foam insulation in between.



The roof of the CSS should be Removable canopy type made from 2 mm thick Galvanized sheet metal with 10 degree.

Separation between RMU & transformer compartment and Separation between Transformer compartment & L.V compartment should be made from 2mm thick sheet steel.

The covers and door are the part of the enclosures when they are closed they shall provide the degree of the protection specified for the enclosure. All cover, doors or roof shall be providing with locking facility. The doors shall open outward at an angle of at least 90 degrees and to be equipped with a device able to maintain them in an open position.

Gland plate for RMU compartment should be made from 3mm thick M.S plate suitable for 3C x 70Sqmm XLPE cable 2 no's. The gland plate should be Split type. Gland Plate for LV Compartment should be made from 3mm thick M.S plate suitable for 8no's / 6 no's outgoing cable. The gland plate should be Split type

The space between Transformer, MV component and LT component shall be provided in accordance with IEC recommendations standard. The enclosure shall be made in such a way that the above components shall be accommodated and the accommodation of components shall be maintained as per IEC recommendation. The enclosure shall be tested by OEM as per Type Test and submit the relevant documents.

**a. 11KV Ring Main Unit (RMU):**

Ring main unit configuration shall NON extensible Compact Switchgear consist of two load break switch (LBS) + one transformer circuit breaker (TCB) both + one out going feeder LBS shall be electrically operated.

Each Load Break switch, Circuit breaker & earth switch in RMU panel all shall be non-draw out type in fixed position.

Breakers and load switches shall be SF6 gas or Vacuum type (with disconnecter & earth Switch).

RMU Construction.

RMU panel construction shall be metal enclosed framed compartmentalized panel construction. Consisting of 4 no's lifting lugs & cable entry from bottom. The cable gland plate shall be made form 3 mm metallic removable type & split type in two parts.

The bus bar rating 630 Amps. (Copper), PVC sleeved/powder coated with color code supported by insulator made from SMC/DMC resin type. The earth bus bar shall be of copper suitable for rated fault duty for 3 sec and earth bus internal connection to all non-current metal parts by 2.5sq mm copper flexible wire.

Hardware's should be used of Stainless steel except termination nut-bolts which should be brass / tinned copper.

**Load Break Switch (ISOLATER)**

a)	Type	Load braking and fault making in SF6 tank
b)	Rated Current	630Amps
c)	Rated Breaking Capacity	630Amps
d)	Fault making Capacity	52.5KA Peak
e)	Short time	21KA

	current for 3 sec	
f)	No of poles	3
g)	Operating Mechanism	Operating handle with ON, OFF, Earth position with arrangement for padlock in each position

The 2 no's of isolators unit are for receiving of 2 No's Incoming 11 KV 3C x 70 Sq.mm XLPE cable from 7th sub-station and also mechanical & Electrical interlocking so that one incomer may be taken on load.

#### **TRANSFORMER CIRCUIT BREAKER.**

a)	Type	Three pole operated simultaneously by a common shaft
b)	No of phase	3
c)	Arc interruption in dielectric medium	SF-6
d)	Type of Charging, Mechanism:	Manual (spring assisted) as well as motorized with 230 VAC operated motor
e)	Continuous Rating	630Amp at ambient design 40 deg C
f)	Short Ckt Withstand	21 KA for 3Sec
g)	Fault making Capacity	52.5 KA
h)	Fault Breaking Capacity	21 KA minimum
i)	Current transformer	3 nos. epoxy cast Current Transformers with 15 VA burden STR of 21 KA for 3 second metering accuracy Class 0.5 and protection accuracy 10P10 and having of CTR 150/75/5A.
j)	Potential Transformer	3-phase draw out type PT of Ratio 11000/110 Volts of 50 VA burden to meet with auxiliary requirement with Class 0.5 accuracy including HT fuses on both incomer end.
k)	Protection Relay	Numeric type or updated version (Make: SCHNEIDER/ALSTOM/SIEMENS/C&S) with the protection of inverse, definite time, short circuit, over current, instantaneous and earth fault, master trip and trip supervision.
l)	Metering Compartment	Multi-Function meter having digital type (single) with voltage, current, PF, frequency, KW and KWH (Make – ENCRON/L&T / Conzerv)
m)	Accessories	2 sets of operating handle, spring charging handle, spanner set and other required accessories.
n)	Optional	One no. shunt trip and tripping coil operating on 12VDC. 2 nos. of space heater with ON/OFF switch and

		thermostat in each side of panel & Cable chamber
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The SF-6 breaker shall be completed with necessary interconnection with fine wiring, ferruled properly including foundation bolts, earthing etc. The layout drawing, dimensional drawings and electrical wiring diagram and operation & maintenance manuals shall be supplied with SF-6 Breaker. The SF-6 breaker shall be supplied in conformity with relevant ISS i.e. with up to date amendments along with manufacturers test certificate.

#### TRANSFORMER:

The transformer shall be fully tested for routine tests, as per BIS-1985. The tenderer shall furnish data regarding adequacy DIN of Transformer capacity.

a)	Transformer capacity	500 KVA (DRY TYPE)
b)	Primary voltage	11 KV +/- 10%
c)	Frequency	50 HZ
d)	No. of Phases	3
e)	Insulation Class	'F'
f)	Cooling	Natural Air
g)	Temperature	Max 115 C by RTD
h)	Percentage Rise	As per IS
i)	In winding	90 degree C
j)	Winding connection	Star/Delta
k)	Impedance	As per IS/BIS/DIN
l)	Vector Group	Dyn 11
m)	Neutral Grounding	HV ungrounded LV Solidly Grounded
n)	Winding material	Copper
o)	Noise Level	As per IEEE 141
p)	Vibration Level	3 G (min.)
q)	Painting	632 Shed of IS:5 or BIS/DIN Standard
r)	Tapping Range	+/- 5%
s)	Losses	Maintain as per IS/BIS/DIN
t)	Make	Siemens/Crompton/BHEL/Schneider

#### LV SWITCHGEAR.

**The L.V side should be designed to equip the following**

##### a) Low voltage Bus bar system

The equipment shall have all the following features -

a)	LV bus bar	From transformer LV bushing to ACB and from ACB to MCCBs
b)	Bus bar size for phase & neutral	Tinned copper busbar, size shall be as per manufacturer design. All the phases and neutral busbar shall be same rating / size. Bus bar size for phase & neutral Suitable spreader to be provided at outgoing side of MCCB to connect 150 Sqmm cable through aluminium lug.
c)	Bus bar support	insulators 1 kV voltage class, SMC epoxy

d)	Bus bar sleeve	insulation Colour coded, for 1kv
e)	Bus bar rated current	Suitable for 800A continuous current rating within the 10K class enclosure @ 400 C ambient temp
f)	Bus bar short circuit	withstand 50 kA for 1 sec

**b. Low voltage switchgear, ACB.**

The equipment shall have all the following features -

a)	Rated operational voltage (V) at 50 Hz	440V
b)	Rated frequency (Hz)	50Hz
c)	Current rating Amps (rms)	800Amps
d)	Rated insulation voltage (V) at 50 Hz	1000
e)	Number of poles	4
f)	Rated impulse withstand voltage(kV)	8
g)	Rated Ultimate Short circuit breaking capacity at 415 V, 50 Hz ( kA rms) Icu	50
h)	Rated Service Short circuit breaking capacity at 415 V,50 Hz ( kA rms), Ics	50
i)	Rated short circuit making capacity at 50Hz (kA peak), expressed as multiples of Icu	105
j)	Rated short time withstand current for 1 sec at 50 Hz (kA rms), Icw, expressed as percentage of Icu	50
k)	Category of utilization	B
l)	Shutters on 'Trip' & 'Close' push button with sealing facility	Yes
m)	Accessory mounting	Accessories shall be front accessible plug in type. Accessories namely motor shunt trip & closing coil, UVT etc. should be common for the entire range & shall be suitable for both AC & DC voltages.
n)	Operating mechanism	Spring charging stored energy type , manual & Automatic
o)	Mechanical life (Operating cycles)	20000
p)	Indications	Breaker shall have following mechanical indications: 1. ON, 2. OFF, 3. TRIP

		4. SPRING CHARGE STATUS
q)	Sensing	True RMS based
r)	Type	Microprocessor based
s)	Control Terminal	Should be front accessible and minimum NO/NC contacts shall be provided for electrical interlocking.
t)	Protection	Overload protection Pick up 0.4 to 1.0 Time delay 0.2 to 40 sec Short Circuit Pick up 2 to 10 Time delay 20 to 400 Micro sec Instantaneous Over current Pick up 4 to 16 & OFF Earth Fault Pick up 0.2 to 0.6 & OFF Time delay 100 to 400 msec
u)	Metering required	Multi-Function meter for measuring 3 Ph current 3 Ph Voltage KWH KVAH Power Factor Max Demand (KVA) Fault History of Minimum Events
v)	Indication	Release shall give individual indication for each type of fault

**c. Low voltage switchgear, MCCB.**

a)	a) For 630 Amps b) For 400 Amps c) For 250 Amps. d) For 100 Amps	Outgoing feeders – 1 nos Outgoing feeders – 2 nos. Outgoing feeders – 2 nos. Outgoing feeders – 4 nos
b)	MCCB rated voltage & Rated frequency (Hz)	415v +/- 10% at 50Hz
c)	Number of poles	4
d)	Current rating Amps (rms)	630/400/250/125Amps
e)	MCCB rated 3 phase short circuit breaking capacity $I_{cs} = I_{cu}$ Rated impulse withstand voltage(kV)	50/35/25/16 KV minimum at 415v and 50Hz
f)	MCCB rated 3 phase short circuit withstand capacity, $I_{cw}$	8kA/8KA/8KA /6 for 1sec
g)	Rated insulation voltage (V) at 50 Hz	1000
	MCCB mechanical & electrical Endurance	As per IS 13947 / IEC
h)	MCCB category of duty	B as per IS / IEC 947
i)	MCCB indications	ON, OFF & TRIP

j)	MCCB protection	Adjustable / front accessible thermal and magnetic setting. (Thermal setting for overload adjustable from 70% - 100% of the rated current & magnetic setting for short circuit adjustable 4-10 times / 5-10 times).
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5. Safety Devices:

Rubber Mats, Fire Extinguisher & First Aid Box

The rate should be exclusive of GST & inclusive of all taxes, levies, loading at manufacturers depot, transportation and unloading at the site of work etc.

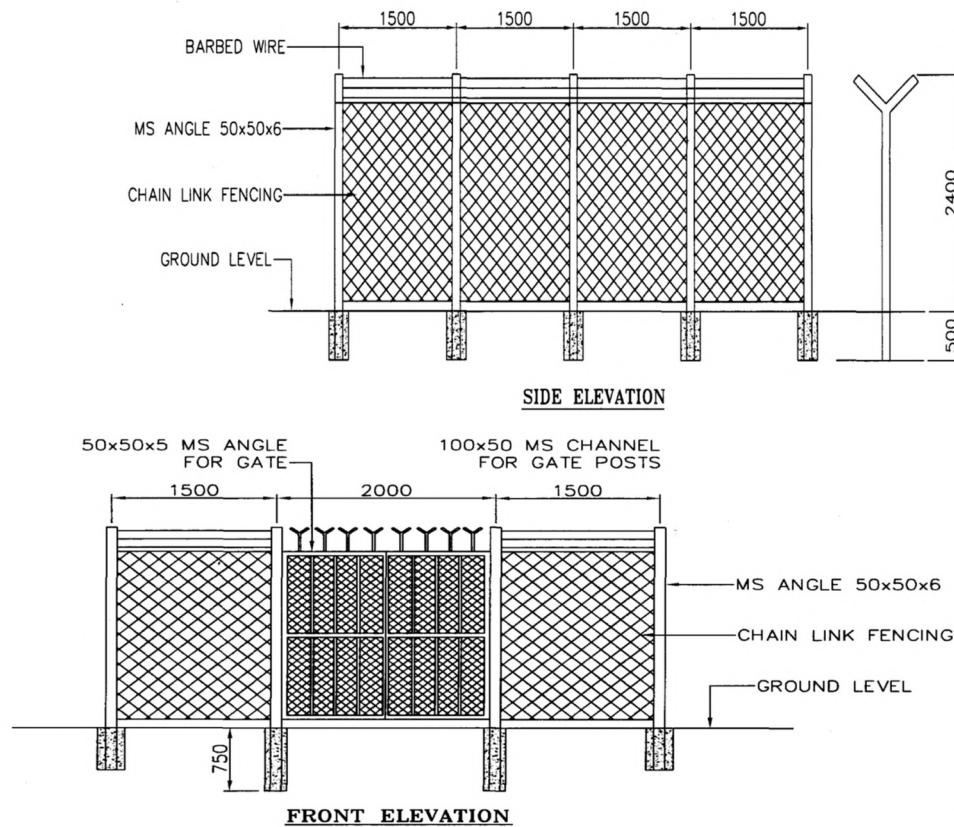
**Technical Specification for Item No. 2**

This includes Installation, testing & Commissioning of Compact S/S, including Battery Charger, Safety Devices as per IS/BIS/DIN standard which includes outdoor type SF6 filled, with combinations of load break isolators & breakers. (including earthing-Erection of earthing by using GI strip (minimum 35mm strip) with earthing plate including cost of coal/salt to RMU). The Installation of 11KV Outdoor SF6 Insulated RMU covering erection, testing and commissioning with associated equipment including civil work, laying of 11kv cable, cable jointing kit etc. of RMU. The permission of Electrical inspector for charging of RMUs is in bidder scope. RMU fencing as shown below is in the scope of bidder the length and width of the fencing before erection the drawing should be approved by Engineer-in Charge. Cable termination kits, cable laying is in bidder scope

The Compact S/S shall be erected by using suitable size of M.S. channel (to be supplied & erected by contractor, as per each module approved foundation drawing) foundation bolts including grouting of the bolts of each unit in the panel. Each unit in the panel shall be connected with 2 separate and distinct earthing system the transformer neutral shall be properly earthed by Copper earthing rods the earthing should be chemical earthing. After installation of panel, necessary test and trial are to be carried out for proper functioning of safety, devices, relay etc. and before charging RMU Panel, all the tests required under relevant ISS and IEC – Rules 1956 shall be carried out and the result shall be in conformity with specifications and copies of test results shall be furnished to Engineer-in-Charge. The work includes supply & fixing of required length of insulated Rubber Mat having withstand capacity up to 22 kV, the Rubber Mat shall be laid in such a way, near the panel for operation of System.

The complete work shall be carried out as directed by Engineer-in-Charge. The side cable fix/adaptor box wherever necessary/required shall be provided. If required, some alteration / modification is in the scope of contractor as per the instructions of Engineer-in-Charge. The work includes all labour & material required for installations, testing and commissioning of RMU as directed by Engineer-in-Charge.

The contractor shall provide the type & routine test certificates and also provides six sets of blue print layout drawings and manuals etc. The work includes all labour and material as directed by Engineer-in-Charge. The work shall be carried out as per Indian Electricity Rules.



### Technical Specification for Item No. 3

Supply at site, Installation, testing & Commissioning of Ring Main units' outdoor type SF6 filled, with various combinations of load break isolators & breakers. The RMUS should be Modular, extensible type on both sides with provision of attaching/connecting with SNAP FIT arrangement W/o External Busbars additional load break switches and circuit breakers in future whenever required. However, RMU shall be extensible on both side however left side is occupied by metering panel and right side is free for extension on vice versa is also possible depending on site condition. Alternatively, Extension shall be possible by adding trunking chambers and required accessories or by plug-in bushing type arrangement. The Package scope of work shall include survey, design, manufacture, FAT and delivery, installation and commissioning of equipments. Ring Main Units capable of being monitored and controlled by the SCADA/DMS. Where relevant, the RMU scope of work shall be coordinated with the work to be carried out under the project's other construction packages & associated materials to the designated destinations as per this tender specification and Bill of quantities. Includes supply of relevant 11KV cable termination kits per this tender Specification.

The insulation/dielectric media inside the stainless steel welded tank should be SF6 gas. The RMUS should be Modular, extensible type on both sides with provision of attaching/connecting with SNAP FIT arrangement W/o External Busbars additional load break switches and circuit breakers in future whenever required. However, RMU shall be extensible on both side however left side is occupied by metering panel and right side is free for extension on vice versa is also possible depending on site condition. Alternatively, Extension shall be possible by adding trunking chambers and required accessories or by plug-in bushing type arrangement. The Package scope of work shall include survey, design, manufacture, FAT and delivery, installation and commissioning of equipments. Ring Main Units capable of being monitored and controlled by the SCADA/DMS

Where relevant, the RMU scope of work shall be coordinated with the work to be carried out under the project's other construction packages & associated materials to the

designated destinations as per this tender specification and Bill of quantities. Includes supply of relevant 11KV cable termination kits per this tender Specification. Each new RMU shall be equipped with main-line load break switches and a fault passage indicator (FPI). Furthermore, to protect each of its lateral / transformer feeders, it shall be equipped with a corresponding set of circuit breakers and relay with auxiliary supply (24V DC) shall be provided.

### **Configurations Required: -**

#### **11KV RMU**

- a) 4-way- 11KV Gas (SF6) Insulated RMU with 2Nos 630A Load break switches and 2Nos. SF6 Insulated VCB of suitable rating – or 3 Nos 630A Load break switches and 1Nos, SF6 Insulated VCB of suitable rating.
- a) This Specification provides for design, manufacture, inspection and testing before dispatch, packing and delivery F.O.R.(Destination) of SF6 insulated RMUs with necessary take off terminal units for their satisfactory operation.
- b) The objective of the RMUs is for extremely small construction width, compact, maintenance free, independent of climate, easy installation, operational reliability, Safe and easy to operate, minimum construction cost, minimum site work and minimum space requirement.
- c). The RMUs shall conform in all respects to high standards Of Engineering design, workmanship and latest revisions of relevant standards at the time of offer.
- d) The type of the 11 KV circuit breaker shall be VCB and insulating medium for load break isolators, Earth switch, 11 KV Buses and other associated equipment's should be SF6 gas. Necessary current sensors / transformers for protection and metering (wherever required). All necessary dry (potential-free) contacts for indications relevant to RMU monitoring status and control.

#### **1.3 GENERAL:**

The Ring Main Unit shall be installed at 11 KV junction points to have continuous supply by isolating faulty sections. The RMU shall be extensible on both sides and consists of the following combinations of load break switches and Circuit breakers for a nominal voltage of 12 KV using SF6 gas as insulating and Vacuum as arc quenching medium The RMU and combination shall be tropicalized and outdoor metal enclosed type. The RMU metal parts shall be of high thickness, high tensile steel which must be grit/short blasted, thermally sprayed with Zinc alloy, phosphate or should follow the 7 tank pre-treatment process and be subsequently painted with polyurethane/PP based powder paint. The overall paint layer thickness shall be not less than 80 microns. Relevant IE rules for clearances, safety and operation inside the enclosure shall be applicable. The enclosure shall be IP 54 and type tested for weather proof at ERDA/CPRI.

All live parts except for the cable connections in the cable compartments shall be insulated with SF6 gas. The SF6 gas tank shall be made of robotic or TIG or MIG welded stainless steel, to have the best weld quality. The gas cubicle shall be metal enclosed with stainless Steel of thickness as per IEC Tested/ designed so as to provide safety and to avoid leakage of gas and should be provided with a pressure relief arrangement away from operator. Both the load break switches and the tee off circuit breaker must be motorized. The cable termination chamber of isolators and circuit breakers both should be of front access type/Round end type as per site requirement. Any accidental over pressure inside the sealed chamber shall be limited by the opening of a pressure-limiting device in the top or rear-bottom part



of the tank or enclosure. Gas will be release to the rear of the switchboard away from the operator and should be directed towards the bottom, into the trench to ensure safety of the operating personnel and the pedestrians / civilians. All the manual operations should be carried out on the front of the switchboard.

## **GENERAL TECHNICAL REQUIREMENTS**

1. Fixed type SF-6 gas insulated / Vacuum circuit breakers. It should be maintenance free, having stainless steel robotically/ TIG / MIG welded enclosure for IN DOOR /OUTDOOR RMU. However, offer with high quality of the welding which has necessary extensive leakage test with leak rate of 0.075% per annum can be accepted. The RMUs to be used are only outdoor type.
2. Low gas pressure devices- 1.4 Bar pressure. 1.4 bar pressure of SF6 gas in chamber of RMU is required.
3. Live cable indicators- High operator safety.
4. Fully rated integral earthing switch on each device.
5. Back up relay with auxiliary supply (24V DC) shall be provided.
6. For indoor Cable boxes should be front access and interlocked with earth switch. No rear /side access required. For outdoor RMUs cable boxes shall be on front.
7. Cable testing possible without disconnection of cables.
8. Compact in dimension.
9. Circuit Breaker with back up relay with auxiliary supply (24V DC) shall be provided.
10. Low pressure, sealed for life equipment, can operate at "0" bar pressure.
11. Cable earthing switch on all switching device-standard, for operator safety.
12. Enclosure with IP 54 standard protection for OUTDOOR RMUs and IP2X for INDOOR RMUs
13. All live parts should be inside a stainless steel enclosure for outdoor type RMU & minimum 2 mm thickness of stainless steel robotically/TIG/MIG welded enclosure for Outdoor / indoor RMU.

## **TECHNICAL AND GUARANTEED PARTICULARS:**

The bidders shall furnish all guaranteed technical particulars as called for in Schedule "A" of this specification. Particulars which are subject to guarantee shall be clearly marked. Bids lacking information in G.T.P are liable to be rejected The Entire units or minimum three functions of RMU shall be enclosed in a single compact metal clad, outdoor enclosure suitable for all weather conditions. The switchgear/steel gas tank shall be filled with SF6 as per IEC/IS Standards relative pressure to ensure the insulation and breaking functions. The steel gas tank must be sealed for life and shall meet the "sealed pressure system" criteria in accordance with the IEC 298 standard. The RMU must be a system for which no handling of gas is required throughout the 25 years of service life. The RMU shall have a design such that in the event of an internal arc fault, the operator shall be safe. This should be in accordance with IEC 298 and relevant Test certificates shall be submitted with the Tender. The offered switchgear and control gear should be suitable for continuous operation under the basic service conditions indicated below. Installation should be in normal indoor conditions in accordance with IEC 60694.

Ambient temperature – 10-degree C to + 50-degree C

Relative humidity - up to 95%

Altitude of installation - up to 1000m, IEC 60120

The RMU shall be tested for an internal arc rating of 20 kA for 1 Sec. for 11 KV RMU. Suitable temperature rise test on the RMU shall be carried out & test reports shall be submitted with tender for technical bid evaluation.

Each switchboard shall be identified by an appropriately sized label, which clearly indicates the functional units and their electrical characteristics.

The switchgear and switchboard shall be designed so that the position of the different devices is visible to the operator on the front of the switchboard and operations are visible as well.

The entire system shall be totally encapsulated. There shall be no access to exposed conductors. In accordance with the standards in effect, the switchboards shall be designed so as to prevent access to all live parts during operation without the use of tools.

The entire 11 KV RMU are insulated by inert gas (SF6) suitable for operating voltage up to 12 KV respectively. The 11 KV circuit breakers must be VCB breaker. It is necessary to fit an absorption material in the tank to absorb the moisture from the SF6 gas. The SF6 insulating medium shall be constantly monitored via a temperature compensating gas pressure indicator offering an indication at different temperature ranges, having distinctive RED and GREEN zones for safe operation.

All the RMUs must be routine tested for the following at factory in India: -

Micro-ohm test (Contact Resistance test) for the assembly inside the tank. \_

Circuit breaker analyzer test so as to ensure the simultaneous closing of all poles for VCB.

\_ SF6 gas leak test.

\_ Partial Discharge test on the complete gas tank so as to be assure of the proper insulation level and high product life.

\_ High voltages withstand.

\_ Secondary test to ensure the proper functioning of the live line indicators, fault passage indicators and relays.

\_ As per IEC/IS standards Mechanical operation of RMU switch Must be carried out.

### **Sulphur Hexa Fluoride Gas (SF6 GAS)**

The SF6 gas shall comply with IEC 376,376A, and 376B and shall be suitable in all aspects for use in 11 KV RMUs under the operating conditions. The SF6 shall be tested for purity, dew point air hydrolysable fluorides and water content as per IEC376,376A and 376B and test certificate shall be furnished to the owner indicating all the tests as per IEC 376 for each Lot of SF6 Gas.

#### **DIELECTRIC MEDIUM**

SF6 gas/ VCB shall be used for the dielectric medium for 11KV RMUS in accordance with IEC376. It is preferable to fit an absorption material in the tank to absorb the moisture from the SF6 gas/ VCB and to regenerate the SF6 gas/ VCB following arc interruption. The SF6 gas / VCB insulating medium shall be constantly monitored via a temperature compensating gas pressure indicator offering a simple go, no-go indication.

### **General structural and mechanical construction:**

The offered RMU should be of the fully arc proof metal enclosed, free standing, floor mounting, flush fronted type, consisting of modules assembled into one or more units. Each unit is made of a cubicle sealed-for life with SF6 gas / VCB and contains all high voltage components sealed off from the environment.

The overall design of the indoor switchgear should be such that front access only is required. It should be possible to erect the switchboard against a substation wall, with HV and LV cables being terminated and accessible from the front.

The units should be constructed from Minimum 2 mm thick stainless steel sheets. However, offer with type test report of pressure withstand test for gas filled compartment with pressure relief device test as per cl. no. 6-103-1 of IEC 62271-200-2003 can be accepted for 2mm stainless steel tank thickness. The design of the units should be such that no permanent or harmful distortion occurs either when being lifted by eyebolts or when moved into position by rollers.

For outdoor RMUs a weather proofing process shall be carried out. SHEET METAL MUST BE GRIT BLASTED / THERMALLY SPRAYED AND POLYURETHANE PAINTED WITH ABOUT 80 MICRON THICKNESSES, TO ACHIEVE OUTDOOR WORTHINESS AND CORROSION PROOFNESS- RMU ENCLOSURE MUST BE SHIELDED AGAINST SOLAR IRRADIATION AND TESTED FOR AMBIENT OF 50 DEGREE C WITHOUT DERATING OF THE EQUIPMENT.

The cubicle shall have a pressure relief device. In the rare case of an internal arc, the high pressure caused by the arc will release it, and the hot gases are allowed to be exhausted out at the bottom / top / rear of the cubicle. A controlled direction of flow of the hot gas should be achieved.

The switchgear should have the minimum degree of protection (in accordance with IEC 60529)

- IP 67 for the tank with high voltage components
- IP 2X for the front covers of the mechanism
- IP 3X for the cable connection covers
- IP 54 for the outdoor enclosure.

#### **1.4 STANDARDS:**

Unless otherwise specified elsewhere in this Specification, the RMU, Switchboard (Switchgear), Load break isolators, Instrument Transformers and other associated accessories shall conform to the latest revisions and amendments thereof to the following standards.

1. IEC 60 298/IEC 62 271-200/IS 12729:1988 - General requirement for Metal Enclosed Switchgear
2. IEC60129/IEC62271-103/ IEC62271-102/IS 9921 - Alternating current disconnector (Load break isolators) and earthing switch
3. IEC 62 271-100 & 200/IEC 60 056/IS 13118:1991 - Specification for alternating current circuit breaker
4. IEC 62 271-1/IEC 60694 - Panel design, SF6/Vacuum Circuit Breakers
5. IEC 60044-1/IEC 60185/IS 2705:1992 - Current Transformer
6. IEC 60265-1/IS 9920:1988- High voltage switches.
7. IEC 376 - Filling of SF6 gas in RMU.
8. IEC 60273/IS: 2099 - Dimension of Indoor & Outdoor post insulators i. with voltage > 1000 Volts.
9. IEC 60529/IS 13947(Part-1) - Degree of protection provided by
  - i. enclosures for low voltage switchgear and
  - ii. Control gear.
10. Indian Safety Regulations 2010/Relevant IS

Equipment meeting with the requirements of any other authoritative standards, which ensures equal or better quality than the standard mentioned above as well as latest standard shall also be acceptable. If the equipment's, offered by the Bidder conform to other standards, salient points of difference between the standards adopted and the specific standards shall be clearly brought out in

relevant schedule. In case of any difference between provisions of these standards and provisions of this specification, the provisions contained in this specification shall prevail. One copy of such standards with authentic English Translations shall be furnished along with the offer. (Hard copy).

The RMUs shall be manufactured to the highest quality consistent with best practice and workmanship and in full accord with the Supplier's quality assurance plan. The RMUs shall conform to the Indian or IEC international standards that are applicable. These include the standards listed in Table 1 below.

Standard	Description
IS 3427	AC metal enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52 kV
IS 12063	Classification of degrees of protection provided by enclosures of electrical equipment
IS 9920 (Parts 1 to 4)	High Voltage Switches
IS 9921 (Parts 1 to 5)	Specification for AC disconnectors and earthing switches for voltages above 1000 V
IS 13118	HV AC Circuit Breakers
IS 10601	Dimensions of terminals of HV Switchgear and Control gear
IS 12729	General requirements of switchgear and control gear for voltages exceeding 1000 V
IEC 1330	High voltage/Low voltage prefabricated substations
IEC 60694	Common clauses for MV switchgear standards
IEC 6081	Monitoring and control
IS 2705	Current Transformers
IS 3156	Voltage transformers
IS 8686	Specification for Static Protective Relays
IEC 62271- 200	Standards for high voltage metal clad switchgear up to 52 KV.
INDIAN ELECTRICITY REGULATION 2010	This is to be as per Central Electricity Authority (Safety Requirement for Construction, Operation & Maintenance of Electrical Plants and Electric Lines) Regulations, 2010

**1.5 THE STANDARDS MENTIONED ABOVE ARE AVAILABLE FROM: IEC - (INTERNATIONAL ELECTRO-TECHNICAL COMMISSION, BUREAU CENTRAL DE LA COMMISSION, ELECTRO TECHNIQUE INTERNATIONALE, 1, RUE DE VEREMBE, GENEVA, SWITZERLAND.)**  
**ISO - INTERNATIONAL STANDARD ORGANISATION**

**1.6 SPECIFIC REQUIREMENTS IN RMU: -**

**1.6.1 CLIMATE CONDITIONS**

The climatic conditions under which the equipment should operate satisfactory are as under:

- \_ Maximum ambient air temperature :50 deg. C
- \_ Minimum ambient air temperature :10 deg.C
- \_ Maximum daily average ambient air temperature :45 deg C
- \_ Maximum humidity :70%
- \_ Altitude above M.S.L. (maximum) :1000 metres
- \_ Average annual rainfall(mm) :200 mm
- \_ Max. wind pressure(Kg/sq.m) :180 to 200
- \_ Seismic level Kandla falls under Seismic Zone No – V, as per IS:1893.

- \_ Average thunder storm days per annum :10

### **1.6.2 Distribution Network Electrical Parameters**

The main parameters of the distribution network are as follows:

_ Rated Voltage:	:	12 KV
_ Nominal system voltage:	:	11 kV (rms)
_ Highest system voltage:	:	12 kV (rms)
_ Number of phases:	:	3
_ Frequency:	:	50 Hz
_ Variation in frequency:	:	48.5 Hz to 51.5 Hz
_ Type of earthing:	:	Solid
_ Power frequency withstand voltage:	:	28 kV
_ Basic impulse withstand voltage:	:	95 kV

### **1.7 RMU OUTDOOR METAL CLAD ENCLOSURE.**

The RMU enclosure must be a metallic; it shall follow an industrialized process of manufacturing. The RMU and combination shall be tropicalized and outdoor metal enclosed type. The RMU metal parts shall be of high thickness, high tensile steel which must be grit/short blasted, thermally sprayed with Zinc alloy, phosphate or should follow the 7 tank pre-treatment process and be subsequently painted with polyurethane based powder paint. The overall paint layer thickness shall be not less than 80 microns.

The rating of enclosure shall be suitable for operation on three phase, three wire, 11 KV, 50 cycles, A.C. System with short-time current rating of 20KA for 3 seconds for 11 KV with RMU Panels.

The enclosure should have two access doors one for the operation and relay monitoring and other for the cable access. Both the doors should have the locking facility to prevent the access to operating mechanism to avoid Unauthorized operating of RMU and relay.

#### **RMU Design Feature**

All design features of the proposed RMU, as described in the supplier's bid and in the bid's reference materials, shall be fully supported by the equipment actually delivered. The key design features include those that relate to:

- a) \_ Maintainability, expandability, and life span
- b) \_ Ability to operate in severe outdoor environmental conditions.
- c) \_ Immunity to electrical stress and disturbance.
- d) \_ Acceptable insulation properties.

#### **INDOOR RMU**

1. MODULAR DESIGN, PANEL TYPE WITH FRONT CABLE ACCESS.
2. RMU MUST BE MADE OF ROBOTICALLY / TIG / MIG WELDED STAINLESS STEEL.
3. Offered RMU must be extensible.

#### **OUT DOOR RMU**

1. Stainless steel enclosure for OUT DOOR RMU application. The manufacturers shall conform the normal current ratings mentioned in GTP at 50 deg. Ambient without derating or as per IEC Standard
2. Enclosure with I.P.54 standard protection.
3. Offered RMU must be extensible
4. Cable boxes shall be on Front sides.
5. RMU ENCLOSURE MUST BE SHIELDED AGAINST SOLAR IRRADIATION AND TESTED FOR AMBIENT OF 50 DEGREE C. The manufacturers shall conform the normal current ratings mentioned in GTP at 50 deg. Ambient without derating, however, design for higher ambient temperature than 50 degrees may be admissible.

## **1.8 ISOLATORS (LOAD BREAK TYPE)**

The load break isolators for Incoming and Outgoing supply must be provided. These should be fully insulated by SF6 gas. The load break isolators shall consist of 630 Amp fault making/load breaking spring assisted ring switches, each with integral fault making earth switches. The switch shall be naturally interlocked to prevent the main and earth switch being switched "ON" at the same time. The selection of the main and earth switch is made by a lever on the facia, which is allowed to move only if the main or earth switch is in the off position. The load break isolators should have the facility for remote operation. Each load break switch shall be of the triple pole, simultaneously operated, automatic type with quick break contacts and with integral earthing arrangement.

The isolating distance between the OFF and the ON position in the isolator should be sufficient to withstand dielectric test as per IS/IEC, so as to have enough isolating distance for ensuring safety during DC injection for Cable testing.

### **Load break switch should have the following**

- Motor operated 12 KV, 630A Load Break switch and manually operated Earthing Switch with making capacity.
- "Live Cable" LED Indicators thru Capacitor Voltage Dividers mounted on the bushings.
- Mechanical ON/OFF/EARTH Indication and interlocking between earth and on/off conditions.
- Anti-reflex operating handle
- Cable Testing facility without disconnecting the cable terminations, cable joints and terminal protectors on the bushings. Cable terminations
- Cable boxes suitable for 1 X 3C x 300 sq mm XLPE Cable with right angle Cable
- Termination Protectors.

## **EARTHING OF ISOLATORS AND BREAKERS (EARTH SWITCH):**

Necessary arrangements are provided at Load break isolators Breaker for selecting Earth position. Mechanical interlocking systems shall prevent the RMU function from being operated from the "ON" to "Earth On" position without going through the "OFF" position.

## **1.10 DISTRIBUTION TRANSFORMER/FEEDER BREAKER (VACUUM):**

The VCB breaker for the controlling of DT/Feeder Breaker must be provided inside welded stainless steel SF6 gas tank with the outdoor metal clad enclosure. The VCB circuit breaker must be a spring assisted three positions with integral fault making earth switch. The selection of the main/earth switch lever on the facia, which is allowed to move only if the main or earth switches is in the off position. The manual operation of the circuit breaker shall not have an effect on the trip spring. This should only be discharged under a fault (electrical) trip; the following manual reset operation should recharge the trip spring and reset the circuit breaker mechanism in the main off position.

The circuit breaker shall be fitted with a mechanical flag, which shall operate in the event of a fault (electrical) trip occurring. The "tripped" flag should be an unambiguous Colour differing from any other flag or mimic.

Both the circuit breaker and ring switches are operated by the same unidirectional handle.

The protection on the circuit breaker shall comprise of the following components:

-

5P10 class protection CTs,

low burden trip coil and

O/C & E/F relay with auxiliary supply (24V DC) shall be provided

IDMT protection relays (Numeric/Microprocessor based) 3 x over current and earth

fault element shall be Definite Time type relay. The relay should be housed within a pilot cable box accessible.

**THE NOMINAL CURRENT RATING OF PROTECTION CLASS CT SHALL BE 250/1 Amp. AND ACCORDINGLY SUITABLE NEUMERICAL RELAY SHALL HAVE TO BE PROVIDED. THE MINIMUM RELAY CURRENT SETTING RANGE FOR O/C: 20% TO 250% AND E/F:10 TO 250% SHOULD BE FROM 2% TO 100%. AND ANY CHANGE IN COMBINATION/CONFIGURATION SHALL BE EXECUTED WITH THE APPROVAL OF ENGINEER In-Charge.**

**Circuit Breaker should have the following:**

- Motor operated 200 A / 630A SF6 insulated Vacuum circuit breaker and Earthing Switch with making capacity 51KA
- Mechanical tripped on fault indicator
- Auxiliary contacts 4NO and 4NC
- Anti-reflex operating handle
- "Live Cable" LED Indicators through Capacitor Voltage Dividers mounted on the bushings.
- O/C + E/F relay with auxiliary supply (24V DC) shall be provided.
- Shunt Trip circuit for external trip signal
- Mechanical ON/OFF/EARTH Indication
- Cable boxes suitable for 1 X 3C x 300 sq mm XLPE Cable with right angle Cable Termination / protectors / boots

#### TECHNICAL DATA

##### **1. Ring Main Unit, Electrical data:**

##### **Electrical data and service conditions**

	Rated voltage	KV	12
1	Power frequency withstand voltage	KV	28
2	Impulse withstand voltage	KVp	95
3	Rated frequency	Hz	50
4	Rated current Busbars	A	630
5	Rated current (cable switch)	A	630
6	Rated current (T-off)	A	630
	Breaking capacities:		
7	active load	A	630
8	closed loop (cable switch)	A	630
9	off load cable charging (cable switch)	A	135
10	earth fault (cable switch)	A	200
11	earth fault cable charging (cable switch)		115
12	short circuit breaking current (T-off circuit breaker)	kA	20 / 21
13	Rated making capacity	kA	52
14	Rated short time current 3 sec.	kA	20 / 21
	Ambient temperature:		
15	Maximum value	°C	+ 50
16	Maximum value of 24 hour mean	°C	+ 40
17	Minimum value	°C	0
18	Altitude for erection above sea level <sup>4</sup>	m	...1000
19	Relative humidity		Max 95%

##### **2. Ring Main Unit Technical data (11KV):**

No.	General data, enclosure and dimensions	
1	Standard to which Switchgear complies	IEC
2	Type of Ring Main Unit	Metal Enclosed, Panel type, Compact Module.
3	Number of phases	3
4	Whether RMU is type tested	Yes
5	Whether facility is provided with pressure relief	Yes
6	Insulating gas	SF6
7	Nominal operating gas pressure	1.4 bar @ 20° C. However offer with Nominal operating gas pressure shall be as per manufacturer standard and suitable to satisfy the rated dielectric strength can be accepted
8	Gas leakage rate / annum	0.075%
9	Expected operating lifetime	30 years
10	Whether facilities are provided for gas monitoring	Yes, temperature compensated manometer can be delivered
11	Material used in tank construction	Stainless steel sheet, minimum 2mm
<b>No.</b>	<b>Operations, degree of protection and colors</b>	
1	Means of switch operation	separate handle
2	Means circuit breaker operation	separate handle and push buttons
3	Rated operating sequence of Circuit Breaker	O - 3min-CO-3min-CO
4	Total opening time of Circuit Breaker	approx. 45ms
5	Closing time of Circuit Breaker	approx. 40ms
6	Mechanical operations of switch (co)	1000
7	Mechanical operations of CO earthing switch	1000
8	Mechanical operations of circuit breaker (co)	2000
9	Principle switch / earth switch	3 position combined switch /earth switch
	<b>Degree of protection:</b>	
10	High Voltage live parts, SF6 / VCB tank	IP 67



11	Front cover mechanism	IP 2X
12	Cable covers	IP 3X
13	Outdoor Enclosure	IP 54
	Colors:	
14	Front cover	
15	Side and cable cover	

### 1.11 BUSHINGS

The units are fitted with the standardized bushings that comply with IEC standards. All the bushings are the same height from the ground and are protected by a cable cover.

### 1.12 CABLE BOXES

All the cable boxes shall be air insulated suitable for dry type cable terminations and should have front access. The cable boxes at each of the two ring switches should be suitable for accepting HV cables of sizes 3c x 300 sq.mm and circuit breaker cable suitable up to 3c x 300 sq.mm. The cable boxes for an isolator in its standard design should have sufficient space for connecting two cables per phase Necessary Right Angle Boot should be supplied to the cable terminations. The type of the Right Angle Boot should be cold applied insulating Boot. In cable box bushing fitting required 3 KN capacities.

### 1.13 CABLE TESTING FACILITY

It shall be possible to test the cable after opening the cable boxes. The cable boxes should open only after operation of the earth switch. Thus ensuring the earthing of the cables prior to performing the cable testing with DC injection.

### 1.14 VOLTAGE INDICATOR LAMPS AND PHASE COMPARATORS

The RMU shall be equipped with a phase wise voltage indication to indicate whether or not there is voltage on each phase of cable. There should be a facility to check the synchronization of phases with the use of external device. It shall be possible for the each of the function of the RMU to be equipped with a permanent voltage indication as per IEC 601958 to indicate whether or not there is voltage on each phase cables. Indicator should be visible from outside without opening door.

### 1.15 EXTENSIBLE

Each combination of RMU shall have the provision for extension both sides by load break isolators / breakers in future, with suitable accessories and necessary Bus Bar. The equipment shall be well designed to provide any kind of extension /trunking chamber for connecting and housing extensible Busbars. Extensible isolators and circuit breakers shall be individually housed in separate SF6 gas enclosures. Multiple devices inside single gas tank / enclosure will not be acceptable. In case of extensible circuit breakers, the Breaker should be capable of necessary short circuit operations as per IEC at 20 KA, and the Breaker should have a rated current carrying capacity of 630 A.

### 1.16 WIRING & TERMINALS:

The wiring should be of high standard and should be able to withstand the tropical weather conditions. All the wiring and terminals (including take off terminals for future automation, DC, Control wiring), 20% Spare terminals shall be provided by the contractor. The wiring cable must be standard single-core non-sheathed, Core marking (ferrules), stripped with non-notching tools and fitted with end sleeves, marked in accordance with the circuit diagram with printed adhesive marking strips.

The wiring should be of high standard and should be able to withstand the tropical weather conditions. All wiring shall be provided with single core multi-

strand flexible copper conductor wires with P.V.C insulation. The wiring shall be carried out using multi-strand copper conductor super flexible PVC insulated wires of 1100V Grade for AC Power, DC Control and CT circuits. Suitable colored wires shall be used for phase identification and interlocking type ferrules shall be provided at both ends of the wires for wire identification. Terminal should be suitably protected to eliminate sulphating. Connections and terminal should be able to withstand vibrations. The terminal blocks should be stud type for controls and disconnecting link type terminals for CT leads with suitable spring washer and lock nuts. Flexible wires shall be used for wiring of devices on moving parts such as swinging Panels (Switch Gear) or panel doors. Panel wiring shall be securely supported, neatly arranged readily accessible and connected to equipment terminals, terminal blocks and wiring gutters. The cables shall be uniformly bunched and tied by means of PVC belts and carried in a PVC carrying trough. The position of PVC carrying trough and wires should not give any hindrance for fixing or removing relay casing, switches etc., Wire termination shall be made with solder less crimping type of tinned copper lugs. Core identification plastic ferrules marked to correspond with panel wiring diagram shall be fitted with both ends of each wire. Ferrules shall fit tightly on the wire when disconnected. The wire number shown on the wiring shall be in accordance with the IS.375. All wires directly connected to trip circuits of breaker or devices shall be distinguished by addition of a red color unlettered ferrule. Inter-connections to adjacent Panels (Switch Gear) shall be brought out to a separate set of Terminal blocks located near the slots or holes to be provided at the top portion of the panel.

Arrangements shall be made for easy connections to adjacent Panels (Switch Gear) at site and wires for this purpose shall be provided and bunched inside the panel. The bus wire shall run at the top of the panel. Terminal block with isolating links should be provided for bus wire. At least 20% of total terminals shall be provided as spare for further connections. Wiring shall be done for all the contacts available in the relay and other equipment and brought out to the terminal blocks for spare contacts. Color code for wiring is preferable in the following colors.

- Voltage circuits: Red, Yellow, Blue for phase and Black for Neutral
- CT circuits: similar to the above
- DC circuits: Grey for both positive and negative
- 250V AC circuits: Black for both phase and neutral
- Earthing: Green

The wiring shall be in accordance to the wiring diagram for proper functioning of the connected equipment. Terminal blocks shall not be less than 1100V grade and shall be piece-molded type with insulation barriers. The terminal shall hold the wires in the tight position by bolts and nuts with lock washers. The terminal blocks shall be arranged in vertical formation at an inclined angle with sufficient space between terminal blocks for easy wiring. The terminals are to be marked with the terminal number in accordance with the circuit diagram and terminal diagram. The terminals should not have any function designation and are of the tension spring and plug-in type.

### 1.17 EARTHING

The RMU outdoor metal clad, Switch Gear, Load break isolators, Vacuum circuit breakers shall be equipped with an earth bus securely fixed along the base of the RMU. The size of the earth bus shall be made of IEC/IS standards with tinned copper flat for RMU and M.S. Flat for Distribution Transformer, earth spike and neutral earthing. Necessary terminal clamps and connectors shall be included in the scope of supply. All metal parts of the switchgear which do not belong to

main circuit and which can collect electric charges causing dangerous effect shall be connected to the earthing conductor made of copper having CS area of minimum 75 sq.mm. Each end of conductor shall be terminated by M 10/equivalent quality and type of terminal for connection to earth system installation. Earth conductor location shall not obstruct access to cable terminations.

The following items are to be connected to the main earth conductor by rigid or copper conductors having a minimum cross section of 75 mm (a) earthing switches (b) Cable sheath or screen (c) capacitors used in voltage control devices, if any. The metallic cases of the relays, instruments and other panel mounted Equipment's shall be connected to the earth bus by independent copper wires of size shall be made of IEC/IS standards. The Colour code of earthing wire shall be green. Earthing wires shall be connected on the terminals with suitable clamp connectors and soldering shall not be permitted. Two no. of earthing with connecting G.I Strip (size=35mm\*3mm) are to be provided as per attached Drawing(Appendix-2) with ref IS:3043-1987(2006).

### **1.8 ACCESSORIES & SPARES:1.**

The following spares and accessories shall be supplied along with the main equipments at free of costs. This shall not be included in the price schedule.

1. Charging lever for operating load break isolators & circuit breaker of each RMU.
2. The pressure gauges' indications - 1 numbers  
Provision shall be made for padlocking the load break switches/ Circuit breaker, and the earthing switches in either open or closed position with lock & master key.

#### **1.19 TESTING OF EQUIPMENT & ACCESSORIES:**

Provision for testing CTs, PTs, Relays, Breakers and Cables shall be made available. Procedure and schedule for Periodical & Annual tastings of equipments, relays, etc. shall be provided by the supplier.

##### **1.19.1 TYPE TEST**

The Tenderers should, along with the tender documents, submit copies of all Type test certificate of their make including breaker and Isolators in full shape as confirming to relevant ISS/IEC of latest issue obtained from an International/National Govt. Lab/Recognized laboratory. The above type test certificates should accompany the drawings for the materials duly signed by the institution who has type test certificate.

##### **1.19.2 ACCEPTANCE AND ROUTINE TESTS.**

All acceptance and routine tests as stipulated in the latest IEC- shall be carried out by the supplier in the presence of DISCOM's representative. The supplier shall give at least 15 days' advance intimation to the DISCOM to enable them to depute their representative for witnessing the tests. The partial discharge shall be carried out as routine test on each and every completely assembled RMU gas tank and not on a sample basis. As this test checks and guarantees for the high insulation level and thus the complete life of switchgear.

##### **1.19.3 ADDITIONAL TESTS**

The DISCOM reserves the right for carrying out any other tests of a reasonable nature at the works of the supplier/laboratory or at any other recognized laboratory/research institute in addition to the above mentioned type, acceptance and routine tests at the cost of the Board to satisfy that the material complies with the intent of this specification.

##### **1.19.4 PRE-COMMISSIONING TESTS**

All the pre-commissioning tests will be carried out in the presence of the

DISCOM's testing engineer and necessary drawing manual and periodical test tools shall be arranged to be supplied. During the above tests the contractor representative should be present till the RMUs are put in to service.

### **1.20 INSPECTION:**

The inspection may be carried out by the DISCOM at any stage of manufacture. The supplier shall grant free access to DISCOM's representative at a reasonable time when the work is in progress. Inspection and acceptance of any equipment under this specification by the DISCOM shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment is found to be defective. The supplier shall keep the DISCOM informed in advance, about the manufacturing programme so that arrangement can be made for inspection. The DISCOM reserves the right to insist for witnessing the acceptance/routine testing of the bought out items. The DISCOM has rights to inspect the supplier's premises for each and every consignment for type & routine test. No material shall be dispatched from its point of manufacture unless the material has been satisfactorily inspected and tested / unless the same is waived by the DISCOM in writing.

### **1.22 TRAINING:**

The supplier shall give rigorous training to the engineers & staff for 2 days in attending trouble shooting and maintenance.

### **1.23 DOCUMENTATION and DRAWINGS**

All drawings shall conform to relevant International Standards Organization (ISO) Specification. All drawings shall be in ink and suitable for microfilming. The tenderer shall submit along with his tender dimensional general arrangement drawings of the equipment's, illustrative and descriptive literature in triplicate for various items in the RMUs which are all essentially required for future automation.

- I. Schematic diagram of the RMU panel
  - II. Instruction manuals
  - III. Catalogues of spares recommended with drawing to indicate each items of spares
  - IV. List of spares and special tools recommended by the supplier.
  - V. Copies of Type Test Certificates as per latest IS/IEC.
  - VI. Drawings of equipment's, relays, control wiring circuit, etc.
  - VII. Foundation drawings of RMU so that Utility will have planned and carry out civil works etc.
  - VIII. Dimensional drawings of each material used for item VII.
  - IX. Actual single line diagram of RMU/RMUs with or without Extra combinations shall be made displayed on the front portion of the RMU so as to carry out the operations easily.
- The following should be supplied to each consignee circle/town along with the initial supply of the equipment's ordered.
- a. Copies of printed and bound volumes of operation, maintenance and erection manuals in English along with the copies of approved drawings and type test reports etc.
  - b. Sets of the manuals as above shall be supplied to the Engineer –in-charge. A soft copy of the all Technical and Drawing furnished in a CD

### **1.24 NAME PLATE:**

Each RMU and its associated equipment's shall be provided with a nameplate legible and indelibly marked with at least the following information.

- a. Name of manufacturer
- b. Type, design and serial number

- c. Rated voltage and current
- d. Rated frequency
- e. Rated symmetrical breaking capacity
- f. Rated making capacity
- g. Rated short time current and its duration
- h. Purchase Order number and date
- I. Month and Year of supply
- j. Last date of completion of Guarantee period
- k. Rated lightning impulse withstand voltage
- l. Feeder name (Incoming and Outgoing), DTs Structure name, 11000 Volts Dangers etc.
- j Name of Deendayal. Port. Authority

### 1.25 FAULT PASSAGE INDICATORS (FPI):

Fault Passage indicator OK
Fault Passage indicator operated

The conventional practice is to have (N-1) FPI where N is nos. of LBS in a particular configuration of RMU i.e. following for tendered RMUs:

- 2 WAY - 1
- 3 WAY - 1
- 4 WAY - 1
- 5 WAY - 2
- 6 WAY - 2

### 1.26 TROPICALISATION

Due regard should be given to the climatic conditions under which the equipment is to work. Ambient temperatures normally vary between 20 deg C and 40 deg C, although direct sun temperature may reach 45 deg C. The climate is humid and rapid variations occur, relative humidity between 60% and 95% being frequently recorded, but these values generally correspond to the lower ambient temperatures. The equipment should also be designed to prevent ingress of vermin, accidental contact with live parts and to minimize the ingress of dust and dirt. The use of materials which may be liable to attack by termites and other insects should be avoided.

### 1.27 TECHNICAL SPECIFICATION FOR RMU

#### 1.27.1 11 KV Bus Bar

- I. Current Carrying Capacity: 630 Amps.
- II. Short time rating current for 3 secs. : 20 KA for 11kv
- III. Insulation of bus bar: SF6
- IV. Bus bar connections: Anti-oxide grease

### 1.28 PARAMETERS FOR SWITCH GEAR OF DT AND LOAD BREAK ISOLATORS

- I. Type: Metal enclosed
- II. No of Phases: 3
- III. No. of poles: 3
- IV. Rated voltage :12 KV
- V. Operating voltage :11 KV (+10% to -20%)
- VI. Rated lightning impulse withstand voltage :95 KV
- VII. Rated power frequency withstand voltage :28 KV

VIII. Insulating gas: SF6

IX. Rated filling level for insulation: As Per IEC.

X. Max. permissible site altitude at the above gas pressures: 1000m  
(The operating pressure has to be adjusted for greater altitudes)

XI. Isolating distance between ON and OFF position in isolator :80 mm  
(min).

XII. Rated short time current :20 KA. for 11kv

XIII. Rated short time :3s

XIII. Rated peak withstand current :50 KA.

XV. No of operations in Short circuit :15Nos (minimum)  
Operating mechanism: Circuit breaker with spring assisted anti reflex mechanism.

Rated current (Bus): :630 A

Rated current (breaker) :200 A

Circuit Breaker interrupter : SF6 insulated VCB

Rated frequency : 50 Hz

Rated operating sequence : O-3min- CO

Number of mechanical/Remote operations for earthing : As per IEC

& Ring switches & Number of mechanical/ Remote operations for circuit breakers 60298

### 1.29 PRINCIPAL FEATURES

Sr.No	DESCRIPTION	Breaker
1	Circuit label	Yes
2	Mimic diagram	Yes
3	Supply voltage indication	Yes
4	Current Transformer	Yes
5	IDMT O/C & E/F Numerical/Microprocessor relay with Auxiliary supply (24V DC) shall be provided.	Yes
6	Anti - Reflexing Handle	Yes
7	Interlock to defeat the operation of the line side earthing when the line side isolator is ON.	Yes
8	Interlock to defeat the operation of the earthing when the breaker is in service position and is ON.	Yes
9	Breaker ON/OFF indication	Yes
10	Spring Charge indication / Spring assisted mechanism.	Yes
11	Fault Tripping indication	Yes
12	Bus bar end caps	Yes
13	Whether the SF6 gas pressure gauge indicator and filling arrangement.	Yes
14	Whether the spring assisted mechanism with operating	Yes

	handle for ON/OFF.	
15	Whether the earth positions with arrangement for padlocking in each position and independent manual operation with mechanically operated indicator are provided	Yes

### 1.30 Earthing switch for 11 KV Line Side Isolation and DT

Rated short time current: 20 KA. for 11kv.

Rated short time :3s

Rated peak withstand current :50 KA

Interlocking facility:

- 1) Between 11 KV Line side isolator "ON" & Earthing.
- 2) Between 11 KV DT side breaker on close condition & earthing

### 1.31 Current Transformers for breaker

CT Type: Tape wound

CT Description: **THE NOMINAL CURRENT RATING OF PROTECTION CLASS CT SHALL BE 300/150-1-1 Amp. AND ACCORDINGLY SUITABLE NEUMERICAL RELAY SHALL HAVE TO BE PROVIDED. THE MINIMUM RELAY CURRENT SETTING RANGE FORn O/C: 20% TO 250% AND E/F:10 TO 250% SHOULD BE FROM 2% TO 100%.**

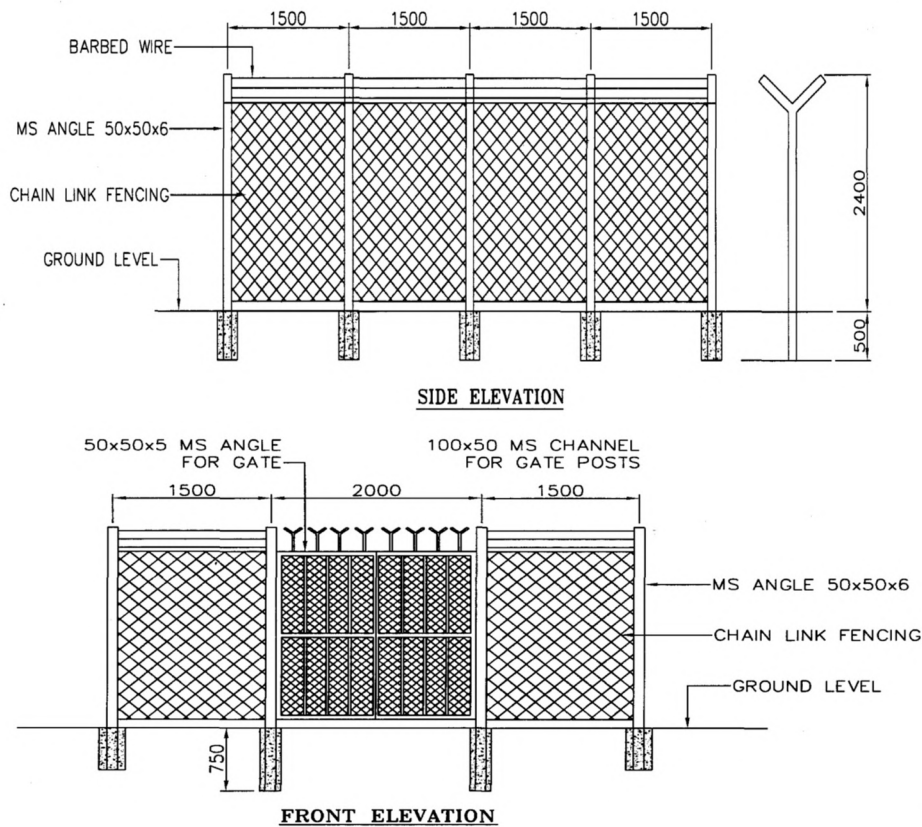
Accuracy Class CT :0.5/5P10 Rated burden : 15 VA.

### Technical Specification No. 4 for Item no 4:

This includes Installation, testing & Commissioning of supplied RMU (Ring Main units) outdoor type SF6 filled, with various combinations of load break isolators & breakers. (including earthing- Erection of earthing by using GI strip (minimum 35mm strip) with earthing plate including cost of coal/salt to RMU). The Installation of 11KV Outdoor SF6 Insulated RMU covering erection, testing and commissioning with associated equipment including civil work, supply & laying of 11kv cable, cable jointing kit etc. of RMU. The permission of Electrical inspector for charging of RMUs is in bidder scope. RMU fencing as shown below is in the scope of bidder the length and width of the fencing before erection the drawing should be approved by Engineer-in Charge. Cable termination kits, cable laying is in bidder scope

All the RMU Panel application shall be erected by using suitable size of M.S. channel (to be supplied & erected by contractor, as per each module approved foundation drawing) foundation bolts including grouting of the bolts of each Module RMU panel. Each RMU panel shall be connected with 2 separate and distinct earthing system. After installation of RMU panel, necessary test and trial are to be carried out for proper functioning of safety, devices, relay etc. and before charging RMU Panel, all the tests required under relevant ISS and IEC – Rules 1956 shall be carried out and the result shall be in conformity with specifications and copies of test results shall be furnished to Engineer-in-Charge. The work includes supply & fixing of required length of insulated Rubber Mat having withstand capacity up to 22 kV, the Rubber Mat shall be laid in such a way, near the panel for operation of RMU.

The complete work shall be carried out as directed by Engineer-in-Charge. The side cable fix/adopter box wherever necessary/required shall be provided. If required, some alteration / modification is in the scope of contractor as per the instructions of Engineer-in-Charge. The work includes all labour & material required for installations, testing and commissioning of RMU as directed by Engineer-in-Charge



### Technical specification 5 for Item No. 5

This includes supply at site HT, 11 KV XLPE (E) armoured cable with aluminum conductor of size 3 C X 150 sq.mm. with ISI mark confirming to IS:7098 (Part-II) 1985 with up-to-date amendments and of approved make.

Cables is to be supplied in single length and cable with joint shall not be accepted. The price quoted by the contractor shall be inclusive of all taxes, VAT, excise duty, Octroi packing and forwarding, insurance, transportation and unloading at site of work. No escalation in the rate of cable shall be accepted at later stage, the rate quoted shall be per meter length of the cable. The quantities of cable shown in Schedule "B" are tentative and contractor is required to assess the actual requirements before procuring the cable. The cable shall have marking at an interval of every meter, showing its progressive length after every meter so as to facilitate the measurement of total length after laying of cable.

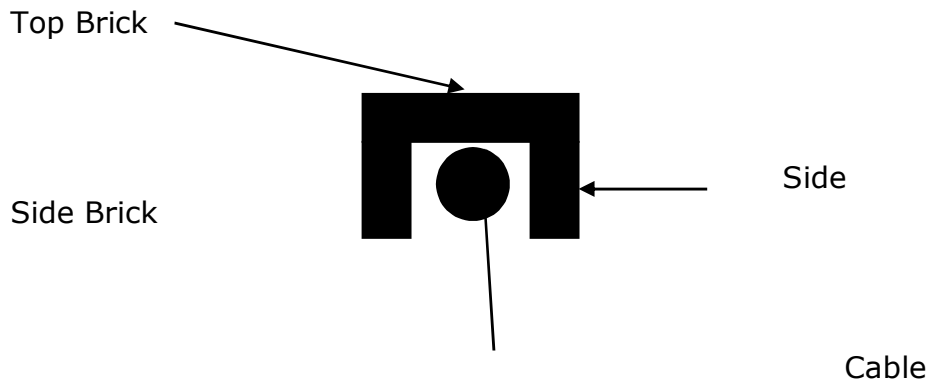
### Technical Specification No. 6 for item no 6:

- (a) The item includes laying of single length cable of size 3 Core, 150 Sq. mm (U/E) XLPE Insulated aluminum conductor XLPE insulated armoured cable of 11kV grade in the existing substation cable trench. The cable shall be laid after opening of trench by removing the MS chequered plates. If any unwanted cable or waste is available in the trench the contractor should clean the trench before laying the new cable and obtaining clearance in writing from Engineer-in-charge. After laying of the cable, cable trench shall be properly covered with existing chequered plates as per original. The item includes required material and labour as directed by Engineer in charge.
- (b) The item includes laying of single length cable of size 3 Core, 150 Sq. mm (U/E) XLPE Insulated aluminum conductor XLPE insulated armoured cable of 11kV grade through excavation in hard/soft soil. The trench to be excavated of 300 mm width & 1.5-meter depth. The bed of 50mm of river sand shall be provided in the bottom of

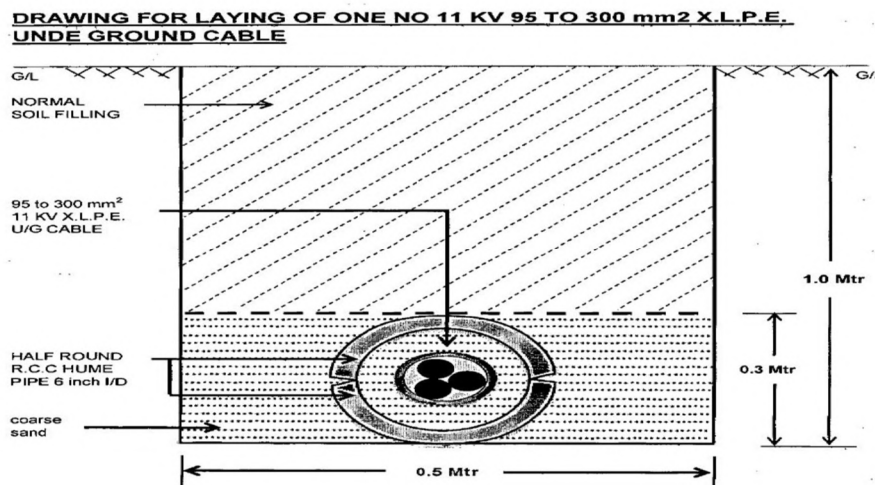


the excavated trench. The cable shall be laid over the bed of river sand. The cable shall be protected as per Sketch shown below by providing and laying bricks both the sides lengthwise parallel to the cable & the gaps shall be filled with river sand. The cable shall be covered by keeping two bricks over the side bricks shown in the sketch. The filling of the trench shall be done with the excavated stuff & should be watered and rammed properly to its original position. The excess excavated stuff shall be disposed of from the Site of work and spreaded in low laying area as directed. The item includes required material and labour as directed by Engineer in charge.

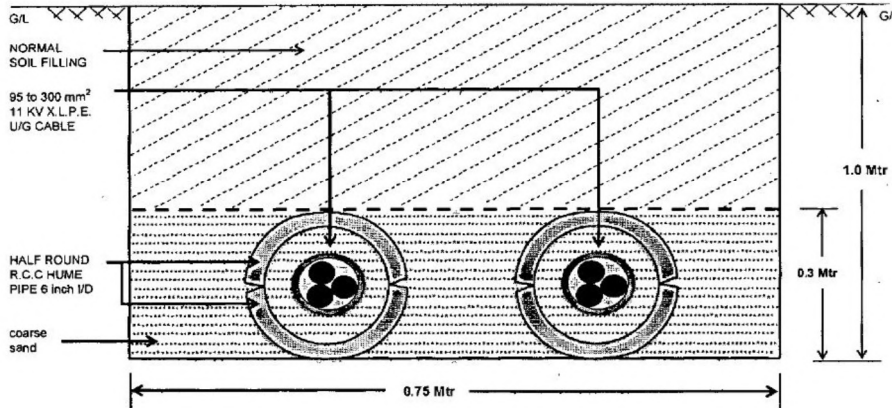
### Sketch



- (c) Excavation of trench 0.5Mtr. Wide and 1 Mtr. Deep for laying of HT/LT underground cable of size upto 300Sq.mm PILC or XLPE. (The cable should be laid on bed of sand and to cover cable with half round RCC pipe 6" internal Dia and length of one meter along with each bottom and top.) The entire trench thereafter should be refilled with earth dully rammed up to ground level as per drawing below.



**DRAWING FOR LAYING OF ONE NO 11 KV 95 TO 300 mm<sup>2</sup> X.L.P.E. UNDER GROUND CABLE**



(d) The item includes laying of single length cable of size 3 Core, 150 Sq. mm (U/E) XLPE Insulated aluminum conductor XLPE insulated armoured cable of 11kV grade in the existing NP2 Pipe Trench. The cable shall be passed through the existing NP2 pipe after opening & removing RCC trench manhole cover. After laying of the cable, the manhole shall be properly covered with existing removed RCC covers as per its original position. At every approximately 30m length of NP2 Pipe, a suitable size of manhole exists. The item includes required material and labour as directed by Engineer in charge.

(e) **RCC platform /RCC Jetty: -**

(f) Cable shall be laid through RCC Jetty / Platform by providing & laying Suitable size Heavy duty HDPE pipe for passing 150Sq mm 3C XPLE Cable, the trench to be provided as per the size of the HDPE pipe keeping suitable top clearance by using RCC cutter machine. if crossing length more than length of standard length of HDPE pipe, then firm shall joint by putting by coupling both the end with nut & bolts between two pipe & then lay across Jetty / platform, the single cable shall be passed through one pipe, the excavated stuff shall be disposed of from the Site of work and speeded in low laying area. After that re-filling with sand cushioning of required quantity CC/RMC work to be done with proper curing to look like original position. This includes all labour and material as directed by Engineer-in-Charge.

(g) **In Rail Crossing/RCC Road Crossing through HDD: -**

Cable shall be laid underneath by using {16" Boar Diameter} Horizontal Directional Drilling (HDD) method by putting suitable diameter HDPE (suitable for cable size up to HT 3CX 400 Sq.mm} HDPE pipe having strength 10Kg/sq.cm} shall in contractor scope), the contractor shall have arranged JCB Machine for excavation, water for drilling, de- watering pump, HDD equipment's at their own cost. The cable shall be pass through heavy duty HDPE pipe buried at nominal minimum depth 165 cm or according to construction of RCC Road/ Rail network or as per directed by EIC. For single cable individual HDPE shall be pass through a road /rail crossing, for separate cable; separate HDPE pipe shall pass through the Tunnel / trench. Lying of HDPE pipes coupled by HDPE socket only after standard length in excavated trench/tunnel and also sealing of HDPE pipe ends by suitable cap at every manhole. Back filling & dressing of excavated trenches as per specification. This includes all labour and material as directed by Engineer-in-Charge.

**Technical specification no 7 for Item No. 7**

(h) Supply at site of 3C x 50 sq. mm + 3C x 25/3 sq. mm, 11 kV (E) grade EPR insulated copper flexible round trailing cable as per IS:9968/Part-II/2002. The

technical particular of the **cable as following:**

**(i) TECHNICAL PARTICULARS**

<b>(j) Sr. No.</b>	<b>(k) Particulars</b>	<b>(l) 3C x 50 mm<sup>2</sup> + 3C x 25/3 mm<sup>2</sup></b>
<b>2</b>	Voltage Grade	6.35/11 kV ( E )
<b>3</b>	Reference Standard	IS: 9968/II/2002
<b>4</b>	<b>Conductor</b>	
	a) Material As per IS : 8130/84	Annealed Tinned Copper
	b) Nominal Cross sectional Area (mm <sup>2</sup> )	
	i) Power Cores	50
	ii) Earth Cores	25/3
	c) Flexibility Class As per IS : 8130/84	Class-5
	d) Max. D.C. Resistance of Conductor at 20°C (Ohm/Km)	
	i) Power Cores	As per relevant IS standard
	ii) Earth Cores	As per relevant IS standard
<b>5</b>	<b>POWER CORE</b>	
<b>5.1</b>	<b>Conductor Screening</b>	
	i) Material	By Black Extruded Semiconducting Compound
	ii) Approx. Thickness (mm.)	1.00
<b>5.2</b>	<b>Insulation</b>	
	i) Material to IS : 6380/84	EPR Type IE-3
	ii) Nominal Thickness (mm.)	4.00
<b>5.3</b>	<b>Insulation Screening (Non Metallic)</b>	
	i) Material	By Black Extruded Semiconducting Compound
	ii) Approx. Thickness (mm.)	0.80
<b>6</b>	<b>Earth Cores Covering</b>	
	i) Material	By Black Extruded Semiconducting Compound
	ii) Approx. Thickness of Covering (mm.)	1.00
<b>7</b>	<b>Number of Cores</b>	
	i) Power Cores	3
	ii) Earth Cores	3
<b>8</b>	<b>Core Identification</b>	
	i) Power Cores	By open spiral colored proofed tape Red, Yellow, and Blue
	ii) Earth Cores	By open spiral Green colored proofed tape

<b>9</b>	<b>Laying Up</b>	Three Power cores laid up together suitably with Three Earth cores placed in the three outer interstices of Power cores and taped with suitable binder tape in open spiral (Optional)
<b>10</b>	<b>Inner Sheath</b>	
	a) Material (As per IS : 6380/84)	PCP Type SE-4 (Black Colour)
	b) Minimum Thickness (mm)	The thickness of the sheath material and tolerance in thickness shall be as per relevant standards.
	c) Cotton twine reinforcement in between Inner and Outer Sheath	Yes
<b>11</b>	<b>Outer Sheath</b>	
	a) Material as per IS:6380/84	PCP Type SE-4 (Black Colour)
	b) Nominal Thickness (mm)	The thickness of the sheath material and tolerance in thickness shall be as per relevant standards.
<b>12</b>	<b>Approx. Overall Diameter of Cable (mm.)</b>	52.5
<b>13</b>	Max. Conductor Temperature for continuous operation	90°C
<b>14</b>	Max. Conductor Temperature during short circuit condition	250°C
<b>21</b>	Identification and Marking	Manufacturer's Name and/or Trade Name and Voltage Grade i.e. 6.35/11 kV shall be identified throughout the cable length at interval not exceeding one meter either by printed tape in the cable or by printing on the outer sheath.
<b>22</b>	Test Certificate	Type Test, Acceptance & Routine test required

### CABLE SUPPLY LENGTH & DRUM:

**DRUM LENGTH:** Cables shall be supplied in specified non-returnable wooden drums. The bidder shall Offer the cables in drum lengths as specified with allowable tolerance of +5%-0%. The maximum length of cable in one drum shall be 500 Mtr.

**CABLE DRUMS:** The drums shall be of heavy construction made up of good quality wood. The drums shall be suitable for outdoor storage for long periods without deterioration.

The cable should be got approved from Engineer-in-Charge before supply at site by the successful bidder. The bidder shall be submit type test report and Acceptance & Routine test report.

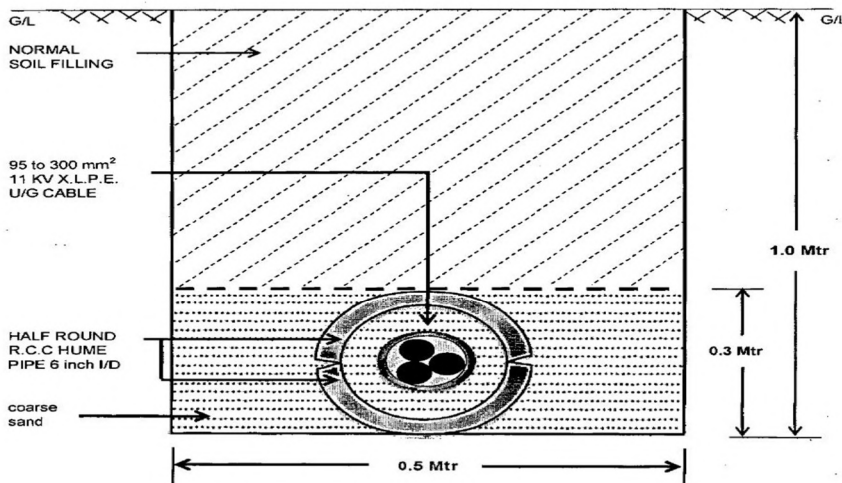
Recommended Makes: POLYCAB / UNIVERSAL / UNISTAR.

### Technical Specification No. 8 for item no 8:

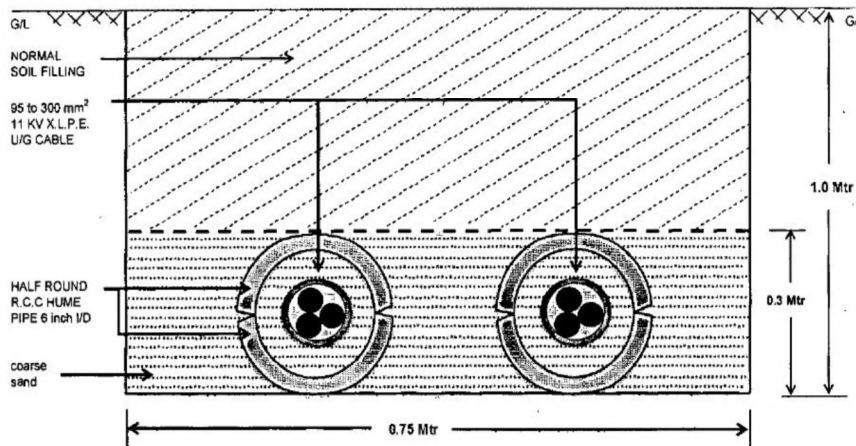
- (a) Excavation of trench 0.5Mtr. Wide and 1 Mtr. Deep for laying of HT/LT underground cable of size upto **3C x 50 mm<sup>2</sup> + 3C x 25/3 mm<sup>2</sup>**. 11 kV (E) grade EPR insulated copper flexible round trailing cable. (The cable should be laid on bed of sand and

to cover cable with half round RCC pipe 6" internal Dia and length of one meter along with each bottom and top.) The entire trench thereafter should be refilled with earth dully rammed up to ground level as per drawing below.

**DRAWING FOR LAYING OF ONE NO 11 KV 95 TO 300 mm<sup>2</sup> X.L.P.E. UNDE GROUND CABLE**



**DRAWING FOR LAYING OF ONE NO 11 KV 95 TO 300 mm<sup>2</sup> X.L.P.E. UNDE GROUND CABLE**



### **RCC platform /RCC Jetty: -**

Cable shall be laid through RCC Jetty / Platform by providing & laying Suitable size Heavy duty HDPE pipe for passing 3C x 50 mm<sup>2</sup> + 3C x 16/3 mm<sup>2</sup>. 11 kV (E) grade EPR insulated copper flexible round trailing cable, the trench to be provided as per the size of the HDPE pipe keeping suitable top clearance by using RCC cutter machine. if crossing length more than length of standard length of HDPE pipe, then firm shall joint by putting by coupling both the end with nut & bolts between two pipe & then lay across Jetty / platform, the single cable shall be passed through one pipe, the excavated stuff shall be disposed of from the Site of work and speeded in low laying area. After that re-filling with sand cushioning of required quantity CC/RMC work to be done with proper curing to look like original position. This includes all labour and material as directed by Engineer-in-Charge.

### **In Rail Crossing/RCC Road Crossing through HDD: -**

Cable shall be laid underneath by using {16" Boar Diameter} Horizontal Directional Drilling (HDD) method by putting suitable diameter HDPE (3C x 50 mm<sup>2</sup> + 3C x 25/3 mm<sup>2</sup>. 11 kV (E) grade EPR insulated copper flexible round trailing cable} HDPE

pipe having strength 10Kg/sq.cm} shall in contractor scope), the contractor shall have arranged JCB Machine for excavation, water for drilling, de- watering pump, HDD equipment's at their own cost. The cable shall be pass through heavy duty HDPE pipe buried at nominal minimum depth 165 cm or according to construction of RCC Road/ Rail network or as per directed by EIC. For single cable individual HDPE shall be pass through a road /rail crossing, for separate cable; separate HDPE pipe shall pass through the Tunnel / trench. Lying of HDPE pipes coupled by HDPE socket only after standard length in excavated trench/tunnel and also sealing of HDPE pipe ends by suitable cap at every manhole. Back filling & dressing of excavated trenches as per specification. This includes all labour and material as directed by Engineer-in-Charge.

#### **Technical Specification No. 9 for item no 9:**

This includes supply at site following size 1.1 KV grade, 4 core aluminum conductor, XLPE insulated armored cable of given sizes which confirming to IS: 7098 (Part-I) 1988 with up to date amendments and of approved make with ISI mark. The manufacturer shall produce TYPE TEST certificate with similar size of cable, which shall not be more than 3 years old. The cable shall have marking/embossing at the interval of every meter showing its progressive length. During the cable inspection, the manufacturer shall show the relevant ROUTINE TESTS to inspecting authority or otherwise the manufacturer shall produce the routine test certificate during supply of cable at site.

- i). 4CX16 Sq.mm XLPE Insulated.
- ii). 4CX 35 Sq.mm XLPE Insulated.
- iii). 4CX70 Sq.mm XLPE Insulated.
- IV). 4CX 95 Sq.mm XLPE insulated.
- V). 4CX 185 sq.mm XLPE Insulated.

#### **Technical Specification No 10 for Item No. 10**

This includes laying of cable size up to 4 core x 185 Sq.mm LT armoured aluminum Conductor XLPE Cable of 1.1KV Grade through.

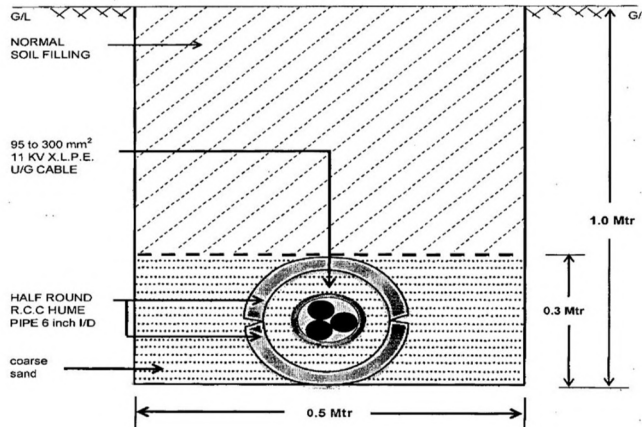
**a) In RCC Trench: - The cable shall be laid after opening of RCC trench by** removing the RCC Covers & cable trench shall be cleaned properly including removal of garbage, stones, bricks & old unused cables etc. from the trench line without damaging the other cables laying in the trench. After laying of the cable, cable trench shall be properly covered with removed RCC covers as per original. The contractor shall provide heat shrinkable straight through joint of relevant size of approved make if the laying of cable shall be more than standard drum length, this includes all labour and material i.e including Raychem straight kit if required as directed by Engineer-in-Charge.

**b) On wall /Truss / structure: -** This includes laying of cable size up to 95 sq.mm LT cable through on wall /Truss / structure This includes laying of single / single length cable up to 3 ½ / 4.0 core x 95 Sq.mm LT armoured aluminum Conductor XLPE Cable of 1.1KV Grade on existing wall/cement structure/Truss/ Perlin. The G.I. Saddle set with base & Clamps shall be provided of suitable size (with respect to cable outer diameter) made from G.I. flat 25 x 3 mm with G.I. Nut bolts/heavy duty screws for clamping. The base shall be fixed rigidly on wall/cement structure through cemented wooden gutties at 0.50 Mtr. Intervals & the cable shall be laid on 3mm thick G.I. saddle base on wall/cement structure and clamped rigidly by G.I. screwing/bolting of clamps. The work includes with all materials and labour as directed by Engineer-in-charge.

**C) In half round pipe: -**Excavation of trench 0.5Mtr. Wide and 1 Mtr. Deep for

laying of HT/LT underground cable of size upto **4C x 185 Sqmm 1.1 kV** grade L.T cable. (The cable should be laid on bed of sand and to cover cable with half round RCC pipe 6" internal Dia and length of one meter along with each bottom and top.) The entire trench thereafter should be refilled with earth dully rammed up to ground level as per drawing below.

**DRAWING FOR LAYING OF ONE NO 11 KV 95 TO 300 mm<sup>2</sup> X.L.P.E. UNDER GROUND CABLE**



**d) In Rail Crossing/RCC Road through HDD:** - Cable shall be laid underneath by using {16" Boar Dia} Horizontal Directional Drilling (HDD) method by putting suitable diameter Dia HDPE (suitable for cable size up to LT 4C/3.5CX 185 Sq.mm} HDPE pipe having strength 10Kg/sq.cm} shall in contractor scope), the contractor shall have arranged JCB Machine for excavation, water for drilling, dewatering pump, HDD equipments at their own cost. The cable shall be pass through heavy duty HDPE pipe buried at nominal minimum depth 165 cm or according to construction of RCC Road/ Rail network or as per directed by EIC. For single size/length cable, individual HDPE pipe shall be passing through a road /rail crossing, for another cable; separate HDPE pipe shall pass through the Tunnel / trench. Laying of HDPE pipes coupled by HDPE socket only after standard length in excavated trench/tunnel and also sealing of HDPE pipe ends by suitable cap at every manhole. Back filling & dressing of excavated trenches as per specification. This includes all labour and material as directed by Engineer-in-Charge.

#### **Technical Specification No 11 for Item No. 11**

This includes Design, Supply at site, installation, testing and commissioning of Outdoor platform mounted type L.T distribution panel with top canopy, double shutter, handle with locking arrangement, dust, damp and vermin proof. The L.T distribution panel shall be fabricated from powder coated 2mm thick M. S sheet outer frame using suitable size of M.S angle and M.S Flat for the frame structure the inner sheet and the door should be made from 1.2 mm thick M.S sheet. The feeder pillar shall be powdered coated using simens grade paint.

The L.T Distribution panel shall be specious for easy maintenance and shall be specious to be provided with all the material mentioned below.

- |   |         |       |
|---|---------|-------|
| 1. 300A, 415 V 50 Hz volt Open Execution 4 pole change over         | Switch. |       |
| 1No.  |         |       |
| 2. 250A TPN MCCB, x 415 volt 25/26 KA, 50 Hz                        |         | 1No.  |
| 3. 125A, TPN MCCB x 415 volt 35 KA, 50 Hz                           |         | 3No.  |
| 4. 63A, TPN MCCB x 415 volt 35 KA, 50 Hz                            |         | 5No   |
| 5. 40A, 10KA TPN MCB and a Neutral Link of suitable size and rating |         |       |
| 1No.  |         |       |
| 6. Suitable size analog ammeter & Voltmeter for the above panel     |         | 1each |

2 No

7. Selector switch unit complete with four portion for Voltmeter/Ammeter.
8. Indicating lamp Red, green and amber blue 230/240v AC, within built resistance 1each.
9. 3phase, 4wire Electronic energy meter of class -1 in poly carbonate body with electro mechanical counter of suitable range for above panel 1No.
10. Surface mounted light sensor timer Switch 1 No.
11. 3 phase Air Break Contractor of 40A 1No.
12. Electrolytic grade copper bus bar for Phase & Neutral, PVC sleeved with Colour code. Danger Board, tie belt, M.S Wall mounted stand etc.

All these components shall be mounted in the panel by means of suitable cadmium passivated hardware. The panel shall be complete in all respects with cable glands, lugs for incoming and outgoing cables including interconnection with PVC insulated cable single core, standard copper conductor of 650/1100V grade.

The panel shall be erected on CC platform / Ground at suitable height by using proper M.S channel frame of Proper size. The M.S channel frame shall be grouted on the wall properly so that it shall withstand the load of the panel properly.

The panel shall be tested as per IS. The panel shall be provided with 2 Nos. G.I terminals for earthing. Before placing the order for manufacturing the above panel drawing should be approved by inspection agencies / Engineer-in-charge showing the accommodation of the electrical components as mentioned in So no 1to 12 in the panel and should fulfill the needs IE rules. The work includes all labour and material as directed by Engineer-in-charge.

#### Technical Specification 12 Item No. 12

This includes design, supply at site with all taxes, packing, forwarding, insurance, transportation and unloading at site of work, installation, testing and commissioning of outdoor pedestal type Feeder Pillar with top canopy, double shutter, handle with locking arrangement (pad lock – 5 lever with keys), dust, damp and vermin proof. The Feeder Pillar Panel shall be fabricated from powder coated 2mm thick M. S sheet outer frame using suitable size of M.S angle and M.S Flat for the frame structure the inner sheet and the door should be made from 1.2 mm thick M.S sheet. The feeder pillar shall be powdered coated using simens grade paint

The L.T Distribution panel shall be specious for easy maintenance and shall be specious to be provided with all the material mentioned below.

1. 200A, 415 V 50 Hz volt Open Execution 4 pole change over 1 No.
2. 160A 415 Volt 50Hz 25/26 KA, 50 Hz 1 No.
3. 100A, 415 Volt 50Hz 35/36 KA, 50 Hz 2 No.
4. 63A, 415 Volt 50Hz 35/36 KA, 50 Hz 6 No.
5. Suitable size ammeter & Voltmeter for the above panel 1 each
6. Selector switch unit complete with four portion for Voltmeter/Ammeter. 2 No.
7. Indicating lamp Red, green and amber blue 230/240v AC, with in built resistance 1 each
8. 3phase, 4wire Electronic energy meter of class -1 in poly carbonate body with electro mechanical counter of suitable range for above panel 1No.
9. Electrolytic grade copper bus bar for Phase & Neutral, PVC sleeved with Colour code. Danger Board, tie belt, M.S Wall mounted stand etc.



All these components shall be mounted in the panel by means of suitable cadmium passivated hardware. The panel shall be complete in all respects with cable glands, lugs for incoming and outgoing cables including interconnection with PVC insulated cable single core, standard copper conductor of 650/1100V grade.

The panel shall be tested as per IS. The panel shall be provided with 2 Nos. SS terminals for earthing. The Panel shall be manufactured from type test holder having type test certificate of feeder panel of similar or above ratings. The above panel drawing should have approved by inspection agencies / Engineer-in-charge before placing the order showing the position of the components as mentioned in Sr no 1 to 10. This includes all labour and material as directed by Engineer-in-charge.

### Technical Specification 13 Item No. 13

Supply of Male Female H.T Power Socket Suitable for 3C x 50 mm<sup>2</sup> + 3C x 25/3mm<sup>2</sup> 11 kV (E) grade EPR insulated copper flexible round trailing cable as per IS:9968/Part-II/2002.

Technical data: for 15kV plug, connector and socket suitable for 11 kV (E) grade EPR insulated copper flexible round trailing cable

Voltage 15000V (15kV)

Amperage 35 – 500A, depending on cable terminal.

Material Housing – Casted aluminum

Arms – Bronze

Pins and Contacts – Silver plated copper

Cable terminals – Silver plated copper

Insulator – PTFE

Gaskets – Neoprene (Silicone for high temp.)

Rollers – Stainless steel

Nuts, bolts and washers – Stainless steel

Mechanical properties IP667

Thermal properties -40°C - 80°C (High temp. available for max 400°C)

Electrical properties Pilot circuit for electrical interlocking.

Standards used NFC 20 040, VDE 0110, NFC 63300, IEC 309-1, CEE 17, BS 44343, IEC 529, DIN 40050, NFC 20010

Standards used in tests IEC 60502-4

Maximum voltage 15kV (400V in pilot circuit), currents up to 500A

- Up to 4 pole insulator assembly as standard covering cable sizes up to 240mm<sup>2</sup>
- IP66 (when connected or with covers closed)
- Standard ambient temperature: -40°C to +80°C or -40°F to +176°F
- Socket & connector connection with integrated cover operated by the push & pull arms
- Standard finishes: marine grade aluminium ISO 3522 - Hardware in stainless steel
- Push & Pull arm material: Bronze ISO 1338:1977
- Female contact, male pin and cable terminal material: silver plated copper
- Easy wiring with male and female insulators made in PTFE (Teflon)
- Interchangeable pins & female contacts without dismantling the connector
- All cable terminals suit for cables of class 5, IEC 60228
- Cable glands: Cavotec "onion ring" gasket and strain relief covering cable outer diameters from Ø 45 - 110 mm
- For termination of the cable terminals, industry approved termination kits for 15kV must be used.

Termination kits may be supplied by Cavotec on request.

- Standard cable terminals for crimping with hexagonal crimping tool
- Back parts of insulators have to be filled with non-reenterable epoxy compound.

No of Pins P&E+pil)	Max. voltage phase / pilot	Pin Size (mm) Max. Amp	Weight kg	Cross section mm <sup>2</sup> / Max rec. Amp	Socket: Female Contacts Product Code
4+2	15000V/400V	16mm / 500A	13	25 mm <sup>2</sup> / 125A	PC6-VX04- M0250
				35 mm <sup>2</sup> / 160A	PC6-VX04- M0350
				50 mm <sup>2</sup> / 200A	PC6-VX04- M0500

#### Technical Specification 14 Item No. 14

This includes Design, Supply at site, installation, testing and commissioning of Outdoor platform mounted type H.T distribution panel suitable for permanently fixing 15KV plug, connector and socket supplied suitable for 11 kV (E) grade EPR insulated copper flexible round trailing cable with top canopy, handle with locking arrangement, dust, damp and vermin proof. The H. T distribution panel shall be fabricated from 2mm thick 316 grade. Stainless. Steel sheet outer frame using suitable size of S.S angle and S.S Flat for the frame structure. The panel fabricated should be spacious and as per Indian Electricity Act.

The panel construction should be as per the diagram shown below the width and the distance should be properly maintained between each connector, there should be 2 nos connector in each panel connected with H.T Trailing cable coming from the Isolator Room (RMU). Before manufacturing the panel, the drawing should be approved by Engineer-in charge & TPI. The above panel should be mounted on the RCC pillar; the pillar dimension will be as the dimension of the panel. After erection of the panel proper protection guard should be constructed to safe guard the panel. The Panel should be provided with Emergency Stop button along with supply of 4core x 4Sqmm armoured Copper cable and same should be laid along with EPR insulated copper flexible round trailing cable from Isolator to plug point without any Joint. The contractor while loading the rates of the SITC of the power plug point panel should also include Laying, testing and commissioning of 4C x4 Sq mm copper cable

The panel shall be tested as per IS. The panel shall be provided with 2 Nos. S.S terminals for earthing. The Panel shall be manufactured from type test holder having type test certificate of feeder panel of similar or above ratings. The above panel drawing should have approved by inspection agencies / Engineer-in-charge before placing the order showing the position of the components. This includes all labour and material as directed by Engineer-in-charge.



### Technical I Specification 15 Item No. 15

This item includes preparation of maintenance free earth station by providing 80mm diameter, 3 meter, 100-micron hot dipped GI chemical electrode with back fill compound including accessories & masonry work. A cement concrete (ratio 1:4:8) chamber of at least 300 mm × 300 mm shall be prepared and a RCC/CI cover of suitable size shall be provided for the chamber. The work shall be carried out to entire satisfaction of Engineer in charge. This work includes all material, labour, tools & tackles as directed by Engineer-In-Charge.

- (a) This item includes preparation of maintenance free earth station by providing 50mm diameter, 3 meter, 100-micron hot dipped GI chemical electrode with back fill compound including accessories & masonry work. A cement concrete (ratio 1:4:8) chamber of at least 300 mm × 300 mm shall be prepared and a RCC/CI cover of suitable size shall be provided for the chamber. The work shall be carried out to entire satisfaction of Engineer in charge. This work includes all material, labour, tools & tackles as directed by Engineer-In-Charge.
- (b) This item includes preparation of maintenance free earth station by providing 80mm diameter, 3 meter, 250-micron Copper bonded chemical electrode with back fill compound including accessories & masonry work. A cement concrete (ratio 1:4:8) chamber of at least 300 mm × 300 mm shall be prepared and a RCC/CI cover of suitable size shall be provided for the chamber. The work shall be carried out to entire satisfaction of Engineer in charge. This work includes all material, labour, tools & tackles as directed by Engineer-In-Charge.

### CLAMP

Each Earth Rod/Pipe/PIP must be provided with a suitable Cu plated clamp OR exothermic welding of Cu plated plate to facilitate Interconnection of rods and connection to Equipment Earth Bar using appropriate copper coated MS strip.

### Earthing Pit

- Specially designed for earthing Inspection.
- Durable mild FRP cover and body.
- Square top to aid block pavior cutting.
- Giving a neat edge design. Circular
- Clear opening to fit inspection chambers.
- Solid tray base plate.

Any defect discovered during this period shall be rectified free of charge. The pits shall be drawn with the help of a boring machine, an auger or any other means as required by site conditions and nature of ground strata which shall be in the scope of supplier.

A cement concrete (ratio 1:4:8) chamber of at least 30 cm x 30 cm shall be provided just below the surface of ground over the funnel for watering and having RCC/CI cover of suitable size as directed. The pit shall be filled with alternative layer of 15cm each of charcoal and salt. This also includes removal of extra-

excavated earth from the site. The work shall be carried out to entire satisfaction of Engineer-in-charge. This work includes all labour and material as directed by Engineer-in-charge.

This also includes supply at site, laying, fixing and connecting of G.I strip of size 25x3 mm from earth station/existing earthing system to Transformer, H.T panel, H.T isolator, L.T panel etc. as the case may be. This also includes laying and connecting of transformer neutral shall be earthed with two separate distinct copper flat of size 25x3mm. The copper strip shall be properly buried in the ground / flooring including the floor shall refill as per original. The strip shall be connected through copper nut, bolt and washer of size not less than 12mm etc.

**The G.I strip also shall be laid from earth station to HT panel/LT Panels/Isolator etc. directly to two separate and distinct earths, buried in the ground / pucca trench / wall as the case may be and shall be clamped suitably wherever it is possible.**

The work includes all material & labour required shall done as directed by Engineer-in-charge.

General:

- I) The earthing system shall conform to relevant provisions of code of practice under IS:3043 and shall be carried out in accordance with requirement of IE Rules 1956 as amended from time to time.  
The following are practically applicable:  
Rule No: 32,51,61,67,68,69 & 90.
- II) All medium voltage equipments shall be earthed by two separate & distinct connections with earth through earth electrode.
- III) In case of high voltage, the neutral point shall be earthed by not less than two separate & distinct connections with the earth having its own electrodes.
- IV) The metal conduit, trucking, cable sheath, switchgear, distribution board, feeder pillar, Armour of the cable shall be connected by two separate & distinct connections with the earth.
- V) The neutral point of distribution transformer shall be connected directly to the earth through copper flats having distinct earth points.
- VI) The value of the earth system resistance shall not be more than 5  $\Omega$ .
- VII) The earth electrode shall be designed to have a loading capacity adequate for the system for which it forms a part i.e. it should be capable of dissipating without failure of energy in the earth path at the point at which it is installed under any condition of operation of the system. The contractor shall prepare & submit six sets of drawing showing the main earth connection & earth electrodes.

#### **Technical Specification no 16 for Item no: -16**

This includes supply at site 1.1 KV grade, 1.5 / 2.5 Sqmm 4 core copper conductor, XLPE insulated armoured cable conforming to IS: 7098 (Part-I) 1985 with up to date amendments and of approved make with ISI mark. The manufacturer shall produce TYPE TEST certificate with similar size of cable, which shall not be more than 3 years old. The cable shall have marking/embossing at the interval of every meter showing its progressive length. During the cable inspection, the manufacturer shall show the relevant ROUTINE TESTS to inspecting authority or otherwise the manufacturer shall produce the routine test certificate during supply of cable at site.

The rate shall exclusive of GST & inclusive of all taxes, packing, forwarding, insurance, transportation and unloading at site of work etc.

**Signature & Seal of Contractor**

**Suprintending Engineer (E)  
Deendayal Port Authority**

<b>Approved Make List for Electrical Items</b>		
Sr. No.	Description	Recommended Makes
1	HV VCB	SIEMENS / CROMPTON GREAVES/ABB/Schneider
1(a)	HV Gas Insulated Breakers	SIEMENS /Schneider/ABB
2	POWER TRANSFORMERS	VOLTAMP/CROMPTON GREAVES /BHARAT BIJLEE/ BHEL/ SIEMENS/ABB/ Schneider/T&R
3	DISTRIBUTION TRANSFORMERS	EMCO/KIRLOSKAR/PATSON/VOLTAM P/ABB/Schneider/T&R
4	RESIN CAST TRANSFORMERS	
	A) RESIN CAST IMPREGNATED	VOLTAMP / KIRLOSKAR / EMCO
	B) DRY CAST	VOLTAMP/KIRLOSKAR/EMCO
5	HT XLPE CABLES	POLYCAB/TORRENT/RPG ASIAN/ NICCO/GLOSTER/ UNISTAR/ UNIVERSAL
6	LT XLPE CABLES	POLYCAB/TORRENT/RPG ASIAN/ NICCO/ RALLISON/PRIMECAB/ HAVELLS/ UNIVERSAL/ UNISTAR/AVOCAB
7	LT ACB	SIEMENS/L&T/SCHNEIDER/C&S
8	PROTECTION RELAYS	AREVA/L&T/SIEMENS/ABB/C&S
9	LT PANEL	CPRI APPROVED
10	CHANGE OVER SWITCH	SIEMENS/L&T/ABB/C&S/SCHNIDER/ LEGRAND / INDOASIAN
11	SFU FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/L&T/ABB/C&S
12	SFU FOR DISTRIBUTION PANELS & FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNEIDER/ LEGRAND/ INDOASIAN/HAVELLS
13	MCCB FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/L&T/ABB
14	MCCB FOR DISTRIBUTION PANELS AND FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNIDER/ LEGRAND/ INDOASIAN/HAVELLS
15	MCB/ELCB/RCCB/ RCCBO FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/HAGER L&T/ABB
16	MCB FOR DISTRIBUTION PANELS AND FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNEIDER/ LEGRAND/ INDOASIAN/ HAVELLS/ STANDARD
17	MCB DISTRIBUTION BOARD	STANDARD / HENSEL/LEGRAND / INDOASIAN / HAVELLS

18	MULTI FUNCTION DIGITAL METER FOR MAIN LT DISTRIBUTION PANELS/DIGITAL KWH METERS	L&T/ENERCON/SECURE/L&G/RISHABH
19	ANALOG VOLT/AMPARE METER FOR DISTRIBUTION PANELS AND FEEDER PILLERS	RISHABH/AE/ENERCON/L&T
20	SLECTOR SWITCH FOR VOLTMETER/AMPARE METER	L&T/SIEMENS/C&S
21	POWER CONTACTOR & OVER LOAD RELAYS	L&T/SIEMENS/ABB
22	QUARTZ TIME CLOCK SWITCH	L&T/INDOASIAN/SIEMENS
23	PVC WIRE WITH COPPER CONDUCTOR	RR KABEL/KEI/POLYCAB/MILEX/GUJCAB / STANDARD/ FINOLEX/ANCHOR
24	FLUSH TYPE SWITCHES, SOCKETS, HOLDERS AND CEILING ROSES & ELECTRONIC REGULATORS	ANCHOR/MK/NORTHWEST/VINAY/PANAMA/HAVELLS
25	DOOR BELLS/CALL BELLS	ANCHOR/LEGEND/MK/NORTHWEST
26	MODULAR SWITCHES, SOCKETS, PLATES & BOXES	ANCHOR / MK / NORTHWEST / LEGRAND /HAVELLS/INDOASIANSIEMENS
27	PVC CONDUIT/OVAL CONDUIT & CASSING CAPPING AND ACCESSORIES	PRECISION/VULCAN/FINOLEX/GARWARE/RESTOPLAST/SWASTIK/BPI
28	GLS LAMPS & FLUORESCENT LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
29	HPSV, HPMV & METAL HELIDE LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
30	IGNITORS FOR HPSV, METAL HELIDE LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
31	LUMINARIES	PHILIPS/BAJAJ/WIPRO/CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
31a	LED Luminaries	Philips /Bajaj/Wipro/CG/Surya/Pyrotech/Syska/Nessa having surge Protection $\geq 10KV$ for fittings & internal Surge rotection for Driver of $\geq 4KV$ , LED Chip only OSRAM/CREE/Philips Lumileds/Citizen/Nicia with LM-79,80 CERTIFICATION
32	CEILING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC

33	WALL MOUNTING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
34	EXHUAUST FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
35	HEAVY DUTY INDUSTRIAL WALL MOUNTING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
36	WATER COOLER	VOLTAS/SHRIRAM USHA/BLUE STAR
37	AIR CONDITIONERS	VOLTAS/CARRIER/BLUESTAR/USHA/ HITACHI/LG/ SAMSUNG/ONIDA
38	REFRIGERATORS	VOLTAS/CARRIER/BLUESTAR/USHA/ HITACHI/LG/ SAMSUNG/WHIRLPOOL
39	VOLTAGE STABILIZER	VEELINE / CAPRI
40	INVERTERS	SUKAM / MICROTEK
41	D.G. SETS A) ENGINE  B) ALTERNATOR	CUMMINS/GREAVES/KIRLOSKAR/ CATERPILLAR/ ASHOK LEYLAND/VOLVO STAMFORD/CROMPTON GREAVES /JYOTI/ KIRLOSKAR ELECTRIC
42	ELECTRIC MOTOR	ALSTOM/CROMPTON GREAVES /SIEMENS/ KIRLOSKAR/ABB
43	WATER PUMPS	SWASTIK / KSB
44	WATER GEYSER	BAJAJ/USHA / CROMPTON GREAVES / SPHEREHOT / RACOLD
45	LUGS & CABLE GLANDS	DOWELLS / JAINSON / BRACO

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**Signature & Seal of Contractor**

**Suprintending Engineer (E)  
Deendayal Port Authority**



**Section VI****Bill of Quantities**

**Name of Work - Providing 11 KV HT Power Supply at berth No. II & IX and Berth No. 13 to 16 for new HMCs.**

Sr. No.	Description	Qty	Unit	Rate	Amount
<b><u>Part A: Electrical Item</u></b>					
1	Supply at Site 11/0.433 KV Compact Substation having dry type transformer of 500VA and as per Tech. Specification No. 1	2	No.		
2	Installation, testing & Commissioning of 11/0.433 KV Compact Substation and as per Tech. Specification No. 2	2	No.		
3	Supply of following type 12 KV, 630Amps, 21KA motor operated SF 6 Gas insulated IP 67 degree of protection, IP 54 Class outdoor type with both side extensible Ring Main Unit complete along with, motorized with battery and battery charger etc. as per tech spec no 3. a) RMU Type B (2 Incomer + 2 outgoing	3	No.		
4	Installation, testing & Commissioning of 12KV,630Amps 21KA Outdoor mounted RMU Unit over pedestal platform as per Technical Specification No. 4	3	No.		
5	Supply at site 3 core, 150 Sq. mm (U/E) HT armoured aluminium conductor XLPE cable of 11kV grade as per IS: 7098 (Part - II) 1988 & as per Technical Specification No. 5	4000	Mtr		
6	Laying, Testing & Commissioning of 3C x 150 Sqmm HT XLPE cable through following and as per Technical Specification No 6. Laying of Cable a) Through RCC Cable Trench as per technical Specification no 6(a) b) Laying of cable through exaction in all type of Soil as per technical specification no 6(b) c) Laying of cable in half round RCC pipe of 6" internal Dia as per technical specification no 6(C).	100 700 1100	Mtr Mtr Mtr		

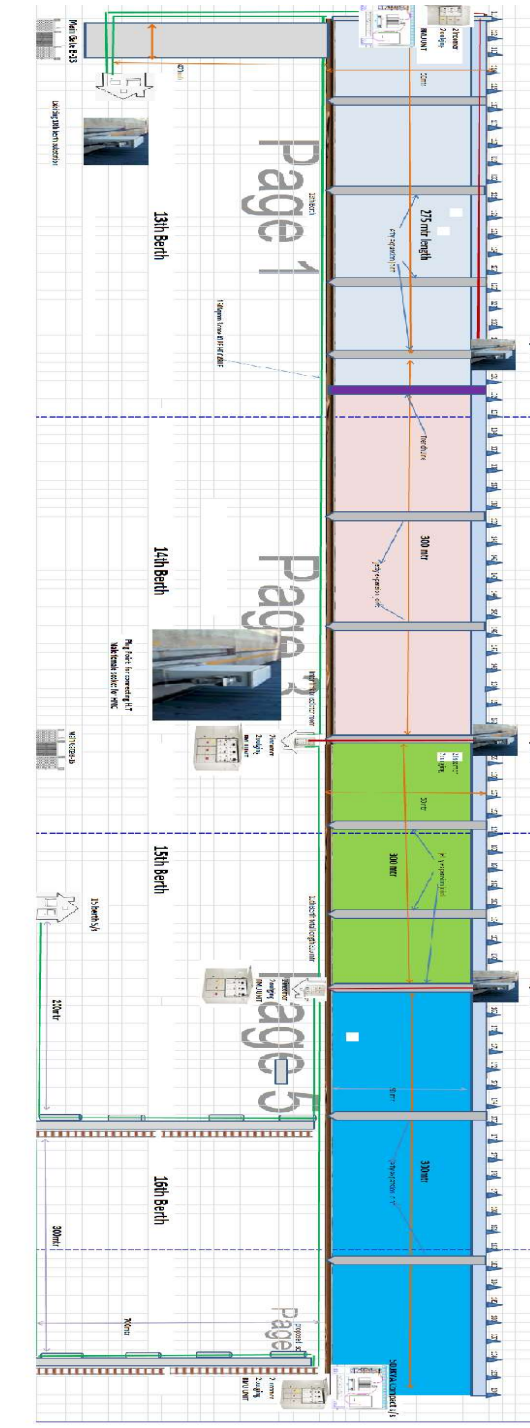
	<p>d) Laying of cable through RCC Jetty / RCC surface excavation through RCC cutter /pneumatic breaker with HDPE / GI pipe of suitable for laying 3c x 150Sqmm XLPE cable as per technical Specification no 6(D)</p> <p>e) Laying of Cable through horizontal boring (16") in RCC Road /Rail/Jetty/RCC surface by providing HDPE pipe of suitable size as per technical Specification no 6(e)</p>	500	Mtr		
		1600	mtr		
7	Supply at site 3C x 50 Sq mm + 3c x 25/3 Sq mm, 11KV € grade EPR insulated Copper Flexible round trailing cable as pe IS 9968/Part - II/2002 as per technical Specification no 7	750	mtr		
8	<p>Laying, Testing &amp; Commissioning of 3C x 25 Sq mm + 3c x 16/3 Sq mm, &amp; 3c x 50Sqmm +3c x 16Sqmm 11KV € grade EPR insulated Copper Flexible round trailing cable as per IS 9968/Part - II/2002 as per technical Specification no 8</p> <p>a) Laying of cable in half round RCC pipe of 6"internal Dia as per technical specification no 8(a).</p> <p>b) Laying of cable on RCC Jetty / RCC surface through RCC cutter / pneumatic breaker by laying HDPE / GI pipe of suitable for laying 25Sqmm EPR Insulated trailing round copper flexible cable The grove for laying the cable should be 200mm width and 150mm depth as per technical Specification no 8(b)</p> <p>c) Laying of Cable through horizontal boring (16") in RCC Road /Rail/Jetty/RCC surface by providing HDPE pipe of suitable size as per technical Specification no 8(c)</p>	400	Mtr		
		200	Mtr		
		150	Mtr		
9	Supply at site 4 Core armoured LT aluminium conductor XLPE cable of 1.1KV grade of the following type & size as per IS: 7098 (Part - I) 1988 & as per Technical Specification No. 9				

	a) 4 core x 16 Sq.mm.	800	Mtr		
	b) 4 core x 35 Sq.mm.	1300	Mtr		
	c) 4 core x 70 Sq.mm.	600	Mtr		
	d) 4 core x 95 Sq.mm.	700	Mtr		
	e) 4 core x 185 Sq.mm	800	Mtr		
10	Laying of 3.5/4.0 Core LT armoured aluminium conductor XLPE cable of 1.1KV grade of the following type as per as per technical Specification no 10 a) Laying of cable in RCC trench as per technical Specification no 10(a) b) Laying of cable on Wall / Truss / Structure as per technical Specification no 10(b) c) Laying of cable in half round RCC pipe of 6" internal Dia as per technical specification no 10(c). d) Laying of Cable through horizontal boring (16") in RCC Road / Rail / Jetty / RCC surface by providing HDPE pipe of suitable size as per technical specification no 10(d ).	800  500 1500 1400	Mtr  Mtr Mtr Mtr		
11	Supply of stainless steel dust and vermin proof pedestal type main distribution panel for providing power distribution to wharf area as per Technical Specification no:-11	6	No.		
12	Supply of stainless steel dust & vermin proof pedestal type Feeder Pillar panel at jetty area as per Tech Spec no:-12	18	No.		
13	Supply of HT Male female power Socket suitable for socketing round trailing cable up to 50 Sq mm capacity to withstanding Max15KV Voltage & 500A current capacity as per technical specification no :- 13	8	No.		
14	Fixing of Male female power Socket suitable for socketing round trailing cable up to 50 Sq mm capacity in a suitable M.s box with double door arrangement over the jetty area over suitable RCC Pillar as per technical Specification no 14	5	No.		
15	This item includes preparation of maintenance free earth station by providing material as per technical specification no: -15				

	a) 50mm diameter, 3 meter, 100-micron hot dipped GI Chemical electrode. b) 80mm diameter, 3 meter, 100-micron hot dipped GI chemical electrode. c) 80mm diameter, 3 meter, 250 micron copper bonded chemical electrode.	10 10 10	No. No. No.		
16	Supply at site 4 Core LT armoured conductor XLPE cable of 1.1KV grade of the following type & size as per IS: 7098 (Part-I)1985 and as per Technical Specification no 15 (i) 4 Core X 4.0 sq. mm.	Copper  2400	  Mtr		
<b>Total:</b>					
<p>(In words Rupees _____ only)</p> <p>(NOTE: The rates should be inclusive of all taxes, duties, fees, cess etc and all incidental charges; but exclusive of GST).</p> <p>Signature &amp; Seal of Contractor</p> <p>Superintending Engineer (E) Deendayal Port Authority</p>					

## Section VII

### DRAWING-I



Signature & Seal of Contractor

Superintending Engineer (E)  
Deendayal Port Authority

## **Section VIII**

### **Format for submitting information for Bid Capacity**

**For calculating “A” of the formula.**

Sr. No.	Financial Year	Value of work undertaken	Multiplying factor as given in the pre-qualification criteria	Value updated to the price level of the year (Col C x col D)
A	B	C	E	F
1				
2				
3				
4				
5				
6				
7				

**calculating “B” of the formula**

Sr. No.	Name of client	Name of work	Work order no. and date	Schedule period of completion as per work order with start date	Contract value	Value of work done	Remaining value of work done	Anticipated date of completion	Remaining value of work done (Completion period of the work for which bids are invited by DPA) from the date of opening of preliminary bid

**Signature & Seal of Contractor**

**Superintending Engineer (E)  
Deendayal Port Authority**

