



कोचिन पत्तन प्राधिकरण  
Cochin Port Authority

COCHIN PORT AUTHORITY

COCHIN-682009, KERALA, INDIA

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E-QUOTATION No. Ele/NAVY/Diff CT/2025

Date: 29.08.2025

**E-QUOTATION DOCUMENT FOR “ Installation, Testing and commissioning of 3 nos. of 110KV , 200/1 A Differential Current transformers in the Existing 110KV SF6 Hybrid switch gear installed at 110KV MES Substation inside Naval Base , Kochi , Enabling Communication with KSEBL 110 KV Substation and Commissioning of Differential Protection System.”**

Website:www.tenderwizard.com/CPT; [www.cochinport.gov.in](http://www.cochinport.gov.in); www.eprocure.gov.in

DY. CHIEF MECHANICAL ENGINEER(ELE)’S OFFICE  
FIRST FLOOR, NEW ADMINISTRATIVE BUILDING,  
COCHIN PORT TRUST  
COCHIN-682009

Due Date & Time for submission : **14.30 hrs. on 16.09.2025**

Date & Time of Opening : **15.00 hrs. on 16.09.2025**

**COCHIN PORT AUTHORITY**  
**Willingdon Island**

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: [ajithkumar@cochinport.gov.in](mailto:ajithkumar@cochinport.gov.in)

e-QUOTATION No. Ele/NAVY/Diff CT/2025

Date: 29.08.2025

**I. e-QUOTATION NOTICE**

1. Electronic Quotations (e-Quotations) on percentage basis are invited from "EHT" Class Electrical Contractors for carrying out the work of "*Installation, Testing and commissioning of 3 nos. of 110KV , 200/1 A Differential Current transformers in the Existing 110KV SF6 Hybrid switch gear installed at 110KV MES Substation inside Naval Base , Kochi , Enabling Communication with KSEBL 110 KV Substation and Commissioning of Differential Protection System*". Quotations shall be submitted before **2.30 pm on 16.09.2025** and shall be opened at **3.00 pm on the same day**. Bill of Quantities of Work, General Conditions, Scope of Work & Technical Specifications for carrying out the work are enclosed.
2. The e-Quotations are invited on Percentage Rate. The estimated amount is excluding GST. The Bidders shall quote percentage above or below the Departmental estimate as given in the Bill Of Quantities (BoQ) and submit it ONLINE in e-tender portal [www.tenderwizard.com/COPT](http://www.tenderwizard.com/COPT)
3. The bidders are to obtain the one time User ID & password for log-in to the e-tendering Portal [www.tenderwizard.com/CoPT](http://www.tenderwizard.com/CoPT) from the service provider M/s.KEONICS by paying registration amount of Rs.1124/- through online Payment using Credit/Debit Card/Net banking or DD in favour of "KSEDCL, Bangalore".
4. The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. For further details, please contact e-Tender Help Desk No. 080-40482000/ 080-49352000/ 9746118529/ 9605557738.
5. e-Quotations are invited from EHT Class Electrical Contractors and the bidders shall submit scanned copy of the valid Electrical contractor's along with the Bid.
6. The Quotation document will be available as two separate files in the e-quotation Portal; containing the following:
  - i. Quotation Notice with General Conditions, Scope of Work and Technical Specifications.
  - ii. Schedule of Work.
7. Both 6(i) & filled in 6(ii) above shall be submitted "Online" only. The name and address of the Bidder shall be necessarily entered in the space provided in the Bill of Quantities of Work.
8. The Bidder shall inspect the site before submitting the quotation in order to make them fully aware of the Scope of Work, Site and its conditions.

Sd/-

**DY.CHIEF MECHANICAL ENGINEER(ELE)**

## **II. GENERAL CONDITIONS**

1. **Validity of Quotation** : The Quotations shall be valid for a period of 90 days from the due date of submission of quotation.
2. **Completion Period**: The whole work shall be completed within 30 days from the date of receipt of work order. In case the Bidder is not permitted to carry out the work due to some problem from Employer's side, he should maintain a record of such time lost, duly counter signed by the Engineer-in-Charge and this period will not be included while determining the delay in completion period. In case the works are not completed within the specified completion periods due to any fault of the Bidder, it will be considered as a breach of contract and the Bidder will not be considered for any other work in future.
3. **Payment Term** : Payments will be made online after completing the work to the entire satisfaction of the Engineer-in-Charge and also after deducting the taxes prevailing in force at the time of payment of bills. The quantities specified in the schedule of quantities of work are only approximate and shall be increased or decreased at the discretion of the Engineer-in-Charge according to actual requirements. Payment will be made as per actual measurements, according to the percentage quoted.
4. **Liquidated Damages**: In case of delay in completion of the contract, liquidated damages (L.D) may be levied at the rate of half percent (½%) of the Contract Price per week of delay, subject to a maximum of 10% of the Contract Price. The amount of Liquidated Damages can be adjusted or set-off against any sum payable to the Bidder.
5. **Defects Liability Period**: The defects liability period for the work shall be 12 months from the date of completion of the work. In the event of any defect/ deficiency being noticed during the period, which is attributable to the defective materials/design/ workmanship, the Bidder shall make good the same at his cost.
6. **Security Deposit**: Security deposit @ 10% of Contract Price shall be recovered from the Bidder's bill. The amount towards Security Deposit so deducted will be released only after successful completion of the defect liability period, subject to certification from the Engineer-in-Charge.
7. **Execution of Agreement**: The successful Bidder will be required to execute within 14 days from the date of receipt of work order, an agreement at his expense on proper value Kerala State Stamp Paper in the prescribed departmental form, consisting of the work order issued to the Bidder, together with the Quotation submitted by him including General Conditions, for the due and proper fulfillment of the contract. Till signing of agreement, the Quotation together with the acceptance letter shall constitute a binding contract between the Bidder and Cochin Port.
8. **Engineer-in-Charge**: The Engineer-in-Charge of the work is the Superintending Engineer (Ele), CoPT. Clarifications if any required can be obtained by contacting the Superintending Engineer (Ele) / Executive Engineer(Ele-P) of the Electrical Division of CoPT (0484-2582351 OR 0484-2582320).
9. **Water**: Water, if required for the work, shall be arranged by the Bidder at his own cost.

Electricity: Will be arranged by the employer free of cost .

10. The Bidder shall have valid GST Registration number. GST as applicable for the work will be paid extra by the Port. The GST applicable as per law can be billed on the Port Trust, which will be paid to the Bidder by the Board along with the bills, for which the Bidder shall hold valid GST Registration number.
11. The Contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Public Liability Policy, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the Contract labour that may be brought in to force from time to time.
12. The Contractor shall be registered under EPF and ESI act and the employees employed under them shall be covered in the EPF and ESI Scheme, if required as per applicable rules. The Contractors shall regularly remit, the Employer & Employee contribution to the authorities in such cases. If not, the Dept. would be required to remit the same and the amount so remitted shall be deducted from the part/ final bill of Contractors.
13. All materials, tools, plants and equipments required for completing the work shall be provided by the Contractor at his own cost. All materials required for the work shall be got approved by the Engineer-in-Charge before using in the work. Any fittings or accessories which may not be specifically mentioned in the specification but are usual or necessary as per good industry practice, shall be provided by the Bidder without extra cost to the Port. All works shall be carried out as per relevant ISS.
14. All labour, skilled or unskilled for the work shall be provided by the Contractor at his own cost and settling any disputes with the labour shall be the Contractor's responsibility.
15. All care and precautionary measures for avoiding any kind of damage/ accidents in the work site shall be taken by the Contractor. All safety precautions shall be taken while carrying out the work. The Contractor shall supply the necessary safety equipments to the workers employed by him and also ensure that they use it, while carrying out the work. The Contractor shall be solely liable and responsible for accidents if any, occurring during the period of Contract.
16. The work shall be completed without causing any damage to the existing structures/cables etc. In case any damage is caused, the same has to be rectified at Bidder's risk and cost.
17. The Port will in no way be responsible for any loss/damages caused in connection with the work.
18. 100% Payment shall be made at only after the satisfactorily completion of work
19. Tenderer shall submit following Documents at the time of submission of Quotation for Qualifying the Bidder to prove the MQC:
  - (i) The tenderer shall submit copy of GST Registration Certificate, PAN Card and Bank details along with the tender through online.
  - (ii) The Tenderer shall submit the valid "EHT" Class Electrical Contractors License at the time of submission of Tender.

- (iii) Contractor shall submit EPF and ESI registration certificate at the time of submission of bid through online.
- (iv) Duly signed Quotation shall be submitted at the time of submission of bid.
- (v) The Contractor shall be done at least one EHT related works within the last 5 years and submit the proof of Work order and completion certificate at the time of submission of bid through online.

**SIGNATURE OF THE BIDDER**

### **III. SCOPE OF WORK**

1. Installation, Testing and commissioning of 3 nos. of 110KV , 200/1 A Differential Current transformers in the Existing 110KV SF6 Hybrid switch gear installed at 110KV MES Substation inside Naval Base , Kochi , The Differential Current transformers will be supplied by COPA.
2. Enabling cable connections of Differential CT's with CRP Panel with cabling, all necessary accessories at MES 110 KV Substation
3. At present the OFC cable is already laid between MES 110 KV Substation and KSEBL 110 KV Substation Panel for getting communication for enabling the differential protection. The Contractor shall supply and lay the OFC cable/other cables if required from MES 110 SS yard to MES Substation Metering/ Control Panel for getting communication for enabling the differential protection.
4. Parameterization of Differential Protection relays at MES 110 KV Substation & KSEBL 110 KV Substation with coordination of KSEBL and with support of OEM M/S Hitachi Energy (India). The Contractor shall arrange necessary Testing Kits for checking and commissioning of the system.
5. Any items has to be removed and refitted for enabling the work shall be done by the contractor.
5. The Work shall be carried out to the entire satisfaction of M/s. KSEBL and MES officials.

### **IV. TERMS & CONDITIONS:**

1. 3 Nos.(1 Set) Differential Current transformers will be supplied by COPA to the contractor for Fixing the same in 110KV SF6 Hybrid switch gear.
2. The contractor has to visit the site before giving quotation for accessing the work.
3. MES has already laid Fibre Optic cable between MES Substation 110KV metering Panel and KSEBL 110KV Substation meter panel about 2/3 years back for communication between the Substations and same will be used for enabling the protection. (Distance between two substations are about 400 mtrs.).
4. The contractor shall have the relevant EHT Electrical / Contract licence as per CEA/KSEBL norms for carrying out the work.
5. Deputation of Service expert from the Original Equipment Manufacturer M/S Hitachi Energy India Ltd. will be available for 2 man-days for the Supervision of the Job. The installation of Differential CT s work shall be completed within this period.
6. For Parameterization and commissioning, necessary arrangements / Coordination shall be made with KSEBL and OEM M/S Hitachi Energy (India) Ltd. for commissioning Differential Protection System.

### **V. DETAILS OF EXISTING HYBRID SWITCHGEAR UNIT IN THE NAVY SUBSTATION IS AS FOLLOWING:**

1. MAKE: ABB , YoM : 2018 , Model PASS MO, Sl. No. 145S043, Voltage 140KV , 3150 A.

**2. Technical Specifications of Differential Current Transformer proposed to be installed  
DIS No : DT-24-25-2152 – 1**

CT Type : Bushing Current Transformer  
Standard : IEC61869-1&2  
Construction : SS cased with resin potting  
Primary : WINDOW

**CORE TECHNICAL PARAMETERS**

Core No : CORE 1  
Core Ratio : 200/1  
Core Class : PS  
**TAP Ratio : 200/1**  
VK $\geq$  : 900 Volts  
I MAG $\leq$  : 70 mA 450 Volts  
RCT $\leq$  : 4 ohms

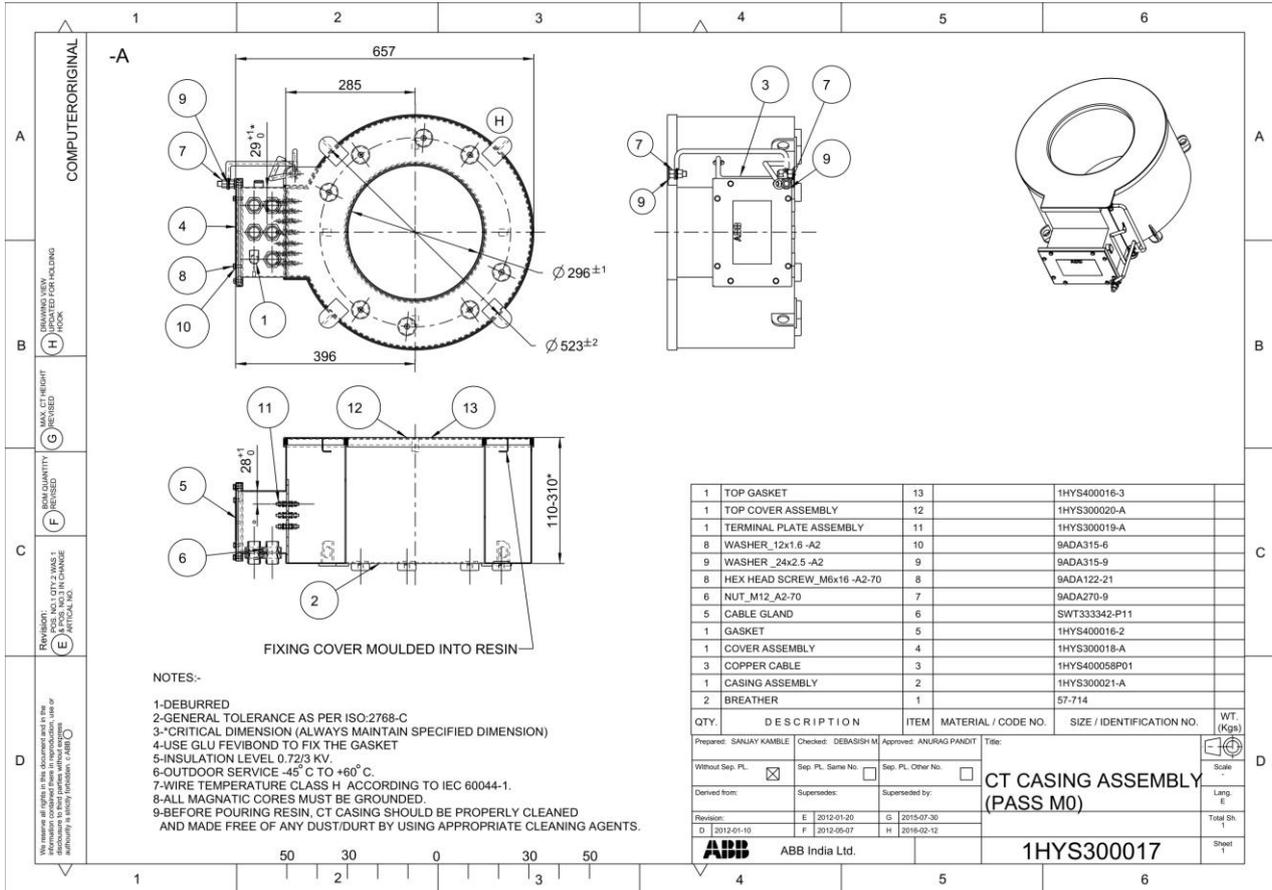
**ELECTRICAL PARAMETERS**

FREQUENCY : 50 Hz  
THERMAL RF : 1.2  
STC : 25 kA 1 sec  
SYSTEM VOLTAGE : 0.660 kV  
MAXIMUM SYSTEM VOLTAGE : 0.720 kV  
BASIC INSULATION LEVEL : 0.72/3 kV  
CLASS OF INSULATION : B  
SYSTEM EARTHING : Solidly grounded  
APPLICATION : OUTDOOR

**GENERAL PARAMETERS**

MINIMUM OPERATION TEMP : -5.00 °C  
MAXIMUM OPERATION TEMP : 50.00 °C  
HUMIDITY UP TO : 95 %

### 3. CT CASING ASSEMBLY DRAWING



## VI. SCHEDULE OF WORK

Sl.No.	Description of Item	Qty.	Unit
1	Installation, Testing and commissioning of 3 nos. ( 1 set) 110KV , 200/1 A Differential Current transformers in the Existing 110KV SF6 Hybrid switch gear installed at 110KV MES Substation inside Naval Base under the Supervision of OEM M/S Hitachi Energy (India) Ltd. for the Installation of CT s.	3	Nos.
2.	Enabling cable connections of Differential CT's with CRP Panel with cabling, all necessary accessories at MES 110 KV Substation, Integration of Differential CT's with CRP Panel including Parameterization of Differential Protection relays at MES 110 KV Substation & KSEBL 110 KV Substation with coordination of KSEBL, support of OEM M/S Hitachi Energy (India) and Commissioning of Differential Protection System with necessary items/ requirements.	1	L.S

## VII. TECHNICAL SPECIFICATIONS

### 1. Providing Cable Terminations And Connections

Method of cable jointing and connection of cables shall be as per IS/IEC or any other higher/equal approved standard. The work shall include all clamping, fittings, fixing, plumbing, soldering, drilling, cutting, taping, heat shrinking, (where applicable), OFC splicing, providing jack/socket , connecting to cable terminal, shorting and grounding as required to complete the job. Cost of all consumable material shall be included in the erection rates quoted The Contractor shall be responsible for drilling of gland plates if required, painting and touching up. Holes shall not be made by gas cutting. The contractor shall tag/ferrule the control cable cores at all terminations, as instructed by the Owner. In panels where a large number of cables are to be terminated and cable identification may be difficult, each core ferrule may include the complete cable number as well. All cable entry points shall sealed be and made vermin and dust proof. Unused openings shall be effectively closed.

### 2. Precautions to be taken

All necessary measures must be taken to ensure that excavations are left in a safe condition, including the erection of suitable hard barricades, warning signs and hazard lights. The earthworks shall be set out in accordance with the design drawings. All excavations shall be made to the depth and extent as shown on the Drawings with proper allowance for fill, additional cover (where required) and formwork. The excavations shall be kept free and clear of loose materials, water and rubbish. The Contractor shall ensure that the terminal sections of pipe that are joined are connected

with Central Plastics Electro fusion Couplings or connectors with tensile strength equivalent to that of the pipe being joined.

### **3. Safety**

The Contractor shall undertake works in accordance with appropriate safety requirements by local & state regulations. Safety measures shall include, but not be limited to, personal protective equipments, operating of machinery within job site, and storage and transportation of materials and equipments. Due Care shall be taken not to damage the cable while drawing.

### **4. Cable tags and marker**

Cable tags shall be provided on all cables at each end (just before entering the equipment enclosure), on both sides of a wall or floor crossing, on each duct/conduit entry. Cable tags/ferrules shall be provided wherever required for cable identification location of cables laid directly underground shall be clearly indicated with cable marker.

### **5. Laying of cable**

The cable shall be laid through the Existing trench etc. In case laying of cables through ground is not possible, the cable shall be clamped along the wall. For drain / road crossing, the cable shall be laid through HDPE/GI pipe where ever possible, in open area and trench. The pavement tiles etc. removed for laying the cables shall be replaced properly to the original condition.

## **6. GENERAL TECHNICAL SPECIFICATION FOR INSTALLATION OF ITEMS**

### **Standards**

Erection, testing and commissioning of the equipments covered shall be done as per standard codes of practice and shall comply with requirements of following Indian Standards and other relevant standards, Indian Electricity Rules and acts and also to the regulations that are in force at the place of installation.

IS: 1255 : Code of practice for installation and maintenance of power cables  
Up to and including 33 kV rating.

IS: 5216 : Guide for safety procedures and practices in Electrical work

IS: 100118 : Code of practice for selection, installation and maintenance for  
Switchgear and control gear-Part-III Installation.

IS: 13408 : Code of practice for the selection, installation and maintenance  
of electrical apparatus for use in potentially explosive atmospheres  
(other than mining application of explosives processing & manufacture)

IS: 3043/87 : Code of practice for installation & maintenance of earthing of installation

## **7. GENERAL CONDITIONS FOR INSTALLATION**

- a) The erection/installation, testing and commissioning shall be carried out in accordance with specification, data sheets, drawings, manufacturer's recommendations, and relevant standards or as directed by owner/Engineer-In-Charge. Requirements regarding erection/installation, testing and commissioning of switchboards, cables, etc. are generally explained here in. It is the responsibility of the contractor to supply all equipment, items, accessories, materials, tools, tackles, transporting, and lifting vehicles, consumables etc. required for unpacking, checking, transportation, storage, safe custody, installation, erection, testing, commissioning, return of unused equipment/items which are supplied from owner's stores and handing over of the installation to the entire satisfaction of owner.
- b) The erection scope shall include supply of all hardware and accessories such as bolts, nuts, washers, gaskets, cable termination accessories, lugs, paint, primer, sand, etc.

required for completeness of the work. All consumable materials such as insulation, tape, cleaning and paint brushes, welding electrodes, rust preventive materials, jute, cotton waste, hack saw blades, bolts, nuts, inhibitive grease, fuel, lubricants, etc. and any other material required in carrying out the work, but not for incorporation in to the permanent work, shall also be included in the scope of contractor.

- c) The equipment/items to be erected shall be handled with care by experienced workers under the guidance of the competent supervisor. Proper handling and transporting equipments are to be used and dragging is to be avoided.
- d) The equipment/items supplied by the owner, shall normally be kept at their stores. The contractor shall inspect these items at the stores by unpacking the containers, if necessary. Responsibility of safe custody of materials after delivery and till handing over shall rest with the contractor. Unused materials and containers shall be returned to the stores. The items supplied by the owner shall be transported from the point of storage to the point of erection/ installation using proper capacity transporting vehicles. The scope shall include unpacking the containers, assembling parts, fixing loose items, components, etc. Materials supplied by the contractor or issued by the owner shall be given suitable protection against weather, dust and vermin. In storage places, equipments shall be placed over wooden sleepers to keep them above ground. Before carrying out erection/installation works of any item, proper care regarding leveling, alignment, access to working parts, facilities for removing the items for repair, statutory clearance, etc. shall be taken.
- e) Foundation bolts, nuts, lock nuts, washers, etc. will normally be supplied by the equipment supplier. Any further requirement of these items shall be under the scope of contractor. The equipment shall be installed on the foundation bolts firmly such that there will not be any vibration during operations. For mounting of equipment/items on the walls/ columns / supports, suitable MS/GI brackets shall be fixed/ grouted.
- f) Electrical connections shall be done with great care using spring washers wherever required, to ensure good contact without creating undue stresses. Supply of all required accessories or electrical connections shall be included in the contractor's scope. Discrepancies if any found between drawings/ statutory requirements and actual conditions at the site, shall be immediately brought to the attention of owner's representative. If any modification is found required in the writing or to suit site condition the same shall be carried out as per the instruction of the Engineer-In-Charge without any extra cost.
- g) All equipments under erection shall be kept properly cleaned and free of dust, vermin, moisture, etc. After erection, it shall be ensure that non-foreign materials, tools or tackles are left in the equipment. All unused cable entries, cutouts, etc. shall be sealed properly.
- h) All tests shall be carried out in the presence of owner's representative and test shall be recorded on an approved proforma duly certified. The records of all tests shall be submitted to the purchaser's representatives. All interconnected wiring shall be checked thoroughly for correct connection with the wiring and schematic drawings of the manufacturer and the drawings supplied by owner before energizing.
- i) All power and bus bar connection shall also be thoroughly inspected and checked for connections, foreign materials, tightness, etc. before energizing the equipment. All components within the main equipment shall be tested for proper performance and correct operation before commissioning the equipment.
- j) All labeling shall be checked for correctness. All nuts, bolts, clamps, joints, connections, etc. shall be checked for tightness and tightened wherever required. All

moving parts shall be checked for its correct movement and proper lubrication. Apply lubrication wherever required. All equipment containing liquid shall be checked for correct quantity filling and all gaskets, walls, etc, shall be checked for leak proof. Oil filling, if found required, shall be done with dry and clean oil. Gaskets shall be replaced if found required. It shall be ensured that all CT leads are loaded or shorted prior to testing and commissioning. Insulation tests shall be carried on all electrical devices, whether specifically mentioned or not, as per this work after properly cleaning these devices.

- k) All the relays and its settings after commissioning shall be furnished to the owner detailing relay type number, panel number etc. In case of any component of an equipment supplied by the owner is found to faulty/unsuitable, the same shall be replaced by the new one issued by owner. For all relays before installation, the rating, range and auxiliary supply voltages for the relay should be checked against drawings/schematic/ schedule.

### **8. CIVIL AND STRUCTURAL WORKS**

- a) Miscellaneous civil works associated with the erection/installation such as excavation, dewatering and refilling of earth work for earth pits and cable trench, chipping, grouting, small cutting, etc, on floors/walls/columns/structures and bringing back the same to original finish, grouting of supports, providing suitable fixing arrangements for cables, push button stations, DBs etc. shall be included in the rates quoted for erection of the respective items, unless specifically excluded in the "Schedule of Items of Work". All structural works associated with cabling, earthing, equipment erection and supporting arrangements shall be included in the scope of the contractor. All the welding and cutting works shall be carried out by certified welders. Painting shall be done on all MS materials provided, by the contractor such as base channels, frames, supports, pedestals, cable trays/racks/risers, enclosures, boxes, conduits, chequered plates, etc. Before painting, the surface should be thoroughly scraped and cleaned to remove dust, grease, plaster or any other foreign materials. It is the responsibility of the contractor to supply and install all the required materials for painting including paint. Cement concrete footing shall be provided for cable trays/racks/risers, pedestals, supports, etc. Footing shall be provided using 1:2:4 PCC with 20mm broken stone. It is responsibility of the contractor to supply and install all materials such as river sand, reinforcement rods, 20mm broken stone, etc. without any extra cost to owner. All concrete works and grouting shall be cured for a minimum period of 48 hours.
- b) Chipping, grouting, etc as recommended shall be done for completion and installation work on the finished floor, wall, roof, etc. and the surfaces has to made good after the work. It is the responsibility of the contractor to supply all necessary materials and to bring the disturbed surface to the original finish. Touch painting of scratches found on equipment, other painted metallic surfaces, galvanized, etc. associated with this work is also included in the scope of contractor without any extra cost. Base steel structures shall be painted with 2 coats of epoxy primer and 2 coats of epoxy paint.

### **9. STANDARD REQUIREMENTS FOR TESTING AND COMMISSIONING**

The standard requirements for testing and commissioning are furnished below.:

- a) All tests shall be carried out in the presence of Owner's representative and tests shall be recorded on an approved format duly certified. The records of all tests shall be submitted to the purchaser's representative.

- b) All interconnected wiring shall be checked thoroughly for correct connections with the wiring and schematic drawings of the manufacturer before energizing. All Power and bus bar connections shall also be thoroughly inspected and checked for correctness, foreign materials, tightness, etc. before energizing the equipment.
- c) All components within the main equipment shall be tested for proper performance and correct operation before commissioning the equipment. All labeling and nameplates shall be checked for correctness. All nuts, bolts, clamps, joints, connections, etc shall be checked for tightness and tightened wherever required.  
All components within the main equipment shall be tested for proper performance and correct operation before commissioning the equipment. All labeling and nameplates shall be checked for correctness. All nuts, bolts, clamps, joints, connections, etc shall be checked for tightness and tightened wherever required.

**10. TESTS**

All standards, specifications and codes of practice referred to herein shall be the latest editions including all applicable official amendments and revisions as on date of opening of bid. In case of conflict between this specification and those (IS: codes, standards, etc.) referred to herein, the former shall prevail. The work shall be carried out with latest IS/IEC/CEA/KSEBL Standards, norms and regulations whichever applicable as per voltage levels.

- (i) IS: 4237 : General requirement of switch gears and control gear for voltage not Exceeding 1000V
- (ii) IS: 375 : Switch gear, bus bars, main connection and auxiliary wiring marking and arrangements.
- (iii) IS: 2147 : Degree of protection provided by enclosures for low voltage switch gear and control gear
- (iv) IS:8197 : Terminal marking for electrical measuring instruments and their accessories.
- (v) IS: 2557 : Danger notice plates
- (vi) IS: 3072 : Code of practice for installation and maintenance of switch gear.
- (vii) IS:8623 : Specification for factory built switch gear and control gear voltage up to and including 1000V AC and 1200 V DC
- (viii) IS: 2705 : Current transformer
- (ix) IS 1248 : Indicating instrument
- (x) IS: 2959 : Auxiliary contactor

**11. SPECIAL CONDITIONS FOR ELECTRICAL WORKS.**

- a) All current carrying components in all installation shall be of appropriate rating of voltage and frequency as required at respective areas.
  - b) All equipments to be supplied and works to be executed shall conform to the CEA standards including protection and metering accessories. No extra amount will be paid in this regard.
  - c) All testing and calibration etc are to be carried out as per requirement of statutory authority concerned.
  - d) On completion of work the contractor has to obtain necessary safety/ energisation certificate from statutory agency concerned, by submitting necessary completion statement/ drawing, equipment details etc. before energisation.
  - e) All costs incurred in obtaining such approval/certificate are to be borne by the contractor. Statutory fees paid shall be reimbursed on presentation of document.
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