



**MORMUGAO PORT TRUST**  
**MATERIALS MANAGEMENT DIVISION**  
**ENGINEERING (MECHANICAL) DEPARTMENT**

MM/NS/CME/

28/02/2018

To,

- 1) **ABB India Ltd., Bengaluru. E-mail – krishna-prasad.s@in.abb.com**  
2) **Seimens Limited, Mumbai. E-mail – service.energy.in@siemens.com**

Dear Sir,

**Sub:-Enquiry No. MM/NS/CME/0377 due on 09/03/2018**

You are requested to kindly furnish your quotation for the subject item in the following format:-

Sr. No.	Description	Unit	Qty.	U/Rate (Rs.)	Freight (Rs.)	Insurance (Rs.)	Others (Rs.)	GST (Rs.)	FOR Destination Rate Total Amount (Rs.)
1	Design, fabricate and supply of 11KV, 630 Amps, outdoor type SF6 RMU with one circuit breaker and two Load Break switch complete as per the Technical specifications. <b>Make: ABB/Siemens</b>	No.	01						

**TERMS & CONDITIONS**

**Only OEM's viz. ABB & Siemens are eligible to apply for this Tender.**

- I. **PRICES:** Prices quoted should be on F.O.R. destination basis inclusive of transit insurance indicating clearly the quantum of taxes and other charges whatsoever applicable. The prices should be firm. However, in case of any statutory revision in taxes within the delivery period of supply order, the same will be considered provided you furnish documentary evidence such as copy of Govt. notification.
- II. **TAXES:** Full GST as applicable at the time of delivery during the contractual period.
- III. **DELIVERY:** The delivery period is within 10 weeks of receipt of our order. Confirm acceptance.
- IV. **PAYMENT:** Our payment shall be released as per the following terms:
- i) 80% payment shall be released against supply of materials at site in good condition.
- ii) Balance 20% of the payment will be released after taking over of the complete work. Payment will be made within 30 days of receipt of material/invoice/documents by ECS/EFT/RTGS. Suppliers Invoice should indicate the suppliers and MPT's GST numbers and the HSN number. Confirm acceptance.
- V. **VALIDITY:** Your quotation should be valid for 120 days from the date of opening.
- VI. **SECURITY DEPOSIT:** Within 14 days of acceptance of the tender, the successful tenderer will have to effect a Security Deposit amount equal to 5% of the basic value, exclusive of taxes, by Demand Draft or by Bank Guarantee from a Scheduled Bank. The Demand Draft should be drawn in favour of the Financial Advisor and Chief Accounts Officer, Mormugao Port Trust, Goa payable at Mormugao Harbour, Goa. However, in case the Security Deposit

is furnished by way of Bank Guarantee, the same should be valid for a minimum period of 12 months and a claim period of further 3 months, or till the Guarantee Period of the material supplied. Please note that we do not accept Bank Guarantee issued by ICICI Bank.

- VII. Please note that the Port extends concession such as exemption in payment of EMD & Security Deposits to Small Scale Industries (SSI) registered with the NSIC, and Micro, Small & Medium Enterprises (MSME), provided proper proof is furnished. Relaxation for Schedule Castes & Schedule Tribes, upon furnishing of Certificates will be given based on the Ministry of MSME, Govt. of India for Procurement and Works Contracts, under procurement policy order 2012 clause nos. 4 & 6.

### **TECHNICAL SPECIFICATIONS**

#### **1. 11KV SF6 RING MAINS UNIT**

The outdoor type SF6 Ring main unit with neutral solidly grounded with earth fault protection should be totally enclosed, free standing, gas tight, vermin and dust proof suitable for tropical climatic use and degree of protection shall be IP54. The SF6 RMU shall consist of a 3 pole, 12KV, 630 Amp Vacuum circuit breaker unit, with integral fault making/dead breaking earth switch and shall be sealed for life. The enclosure shall meet the "sealed pressure system" criteria. There shall be no requirement to "top up" the SF6 gas. It shall provide full insulation, making the switchgear insensitive to the environment. Thus assembled, the active parts of the switchgear unit shall be maintenance free. The switchgear & switchboard shall be designed so that the position of different devices is visible to the operator on the front of the switchboard & operations are visible as well. The switchboard shall be designed so as to prevent access to all live parts during operation without the use of tools. RMU should be tested for internal arc fault test. The outer enclosure of the RMU unit should be of CRCA housing of thickness not less than 2mm and should be rust free. The supporting structures shall be made of hot dipped galvanized steel. The assembly shall be equipped with common power Busbars, 2 nos. load break switches and 1 no. vacuum circuit breaker with Motorized Spring charging options for Circuit Breaker and Load Break Switches as specified. CTR 100: 50 /1-1

#### **i. Load Break switches /Isolators:**

- The isolator shall be SF6 insulated, triple pole, spring assisted manually operated type with quick break contacts. The isolator shall be contained in sealed SF6 enclosure made of stainless steel. SF6 gas pressure gauge shall be provided for pressure indication purpose.
- The isolators should be designed for 12KV, 3 phase 50 Hz and should have continuous current rating of 630 Amps. All connections including band joints for busbars etc. shall be of ample cross section to cater to the rated load current continuously and shall be suitable for short time rating of 21KA for 3 sec.
- The isolator shall be capable of breaking rated full load current and shall have fault making capacity of 52.5 KA peak.
- The operating handle shall have three positions "ON", "OFF", and "EARTH" which shall be clearly marked with suitable arrangement to padlock in any position. A safety arrangement for locking shall be provided by which the isolator operation shall be prevented from "ON" position to "EARTH" position or vice versa in a single operation.
- Integral cable test terminals and test plug with clear identification mark and with interlocked cover shall be provided. The interlocks shall be so arranged that, the cable test terminals will be accessible only in the 'EARTH' position of the isolator

- To facilitate testing of cables, it shall be possible to bring the isolator to OFF position while the test plugs are kept inserted, but operation to ON position shall be prevented so long the cable testing is in progress.
- ii. Vaccum circuit breaker with SF6 insulated enclosure:

The 3 pole 12KV, 630 amps circuit breaker with integral protection system for the protection of Distribution transformers shall be enclosed in the main tank. The circuit breaker shall operate on rotating arc principle and shall have three operating positions i.e. On, Off & Earth. The function shall be naturally interlocked to prevent the main and earth switch from being switched 'ON' at the same time and the CB is not allowed to trip in 'Earth On' position. The selection of the main/earth switch lever on the fascia, which is allowed to move only if the main or earth switch is in the off position. The lever may be padlocked in either the main/off/earth position.

The SF6 circuit breaker shall have rupturing capacity of 350 MVA symmetrical at 12KV three phase voltage.

- iii. Bus bars:

The bus bars shall be SF6 insulated type and shall have continuous rating of 630 amps.

- iv. Cable Boxes:

All cable boxes shall be air insulated suitable for dry type cable terminations. The cable at each of the two ring switches shall be suitable for HV cables of size 3C x 185 sq.mm and circuit breaker cable suitable for up to 3C x 185 sq.mm. Necessary Right angle Boot should be supplied to the cable terminations. The internal arc fault test on cable box shall be carried out for 12KV system for 21KA for 3 second. The clearance between phase to phase and phase to earth shall be as per IS.

## 2. **DRAWING**

Necessary drawings shall be prepared and submitted to Trust's Engineer for approval before fabrication of panel and commencement of work.

On completion of the work the Contractor shall supply 3 sets of final, as built electrical drawings with operation and maintenance manuals after commissioning. The softcopy and hard copy of all the drawings and manuals with spares list shall be furnished to the Trust's Engineer by the supplier.

## 3. **STANDARDS**

The design, manufacturing and supply of the RMU unit and accessories covered in this specification shall comply with relevant IS standards with latest amendments.

## 4. **TESTS**

The Routine and Field test shall be arranged by the supplier and carried out on RMU unit as per latest relevant IEC / IS Standards in presence of **Port Engineer or Third Party Inspection Agency appointed by the Port at the manufacturer's works & at site respectively. The cost of the TPI will be borne by Port.** The Certified copies of test certificates shall be submitted before despatch.

Necessary tests certificates as per relevant IS standards of the equipments, etc shall be submitted to the satisfaction of the Chief Mechanical Engineer or his representative before installation of the equipment.

5. OEM's representative shall be deputed at site during the installation and commissioning which will be undertaken by Port Contractor, following successful commissioning balance 20% payment shall be made. **Confirm acceptance.**

6. **GUARANTEE**

The two year Guarantee period shall commence from the date of taking over of the material. The repair/replacement shall be carried out in mutual consultation with the Port Engineer-in-Charge.

Kindly furnish your offer in sealed cover marked **“MM/NS/CME/0377 due on 09/03/2018”**, which shall be opened on 09/03/2018 at 15.30 hrs. The cover (offer) should reach this office latest by 15.00 hrs on the due date.

Thanking you,

Yours faithfully,

**MATERIALS MANAGER**

**ABB India Ltd.,  
Registered Office and Corporate Office,  
21<sup>st</sup> Floor, World Trade Center,  
Brigade Gateway, No.26/1,  
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Bengaluru – 560055.**

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