Tender No. : **DID3064L14/L3**
Tender Date : **28.03.2014**
Bid Closing On : **08.05.2014 at 13:00 hrs.(IST)**
Bid Opening On : **08.05.2014 at 13:00 hrs.(IST)**

Tender issued to following parties only:

Slno	V_Code	Vendor Name	City/Country
1	200009	BHARAT HEAVY ELECTRICALS LIMITED	BHOPAL
2	200310	ASSAM ELECTRICALS	TINSUKIA
3	200832	INDUSTRIAL EQUIPMENTS	GUWAHATI
4	201596	EVERLITE ENGINEERING INDUSTRIES	PANITOLA
5	201659	PURBANCHAL UDYOG	GUWAHATI
6	201667	RIGHILL ELECTRICS PVT LTD	BHOPAL
7	202289	U.K. ENTERPRISE	GUWAHATI
8	202973	TRADE & TECHNOLOGY PVT. LTD.	DIBRUGARH
9	203062	GLOCON	TINSUKIA
10	204244	PCE PROJECTS PVT.LTD.	KOLKATA
11	204567	K.D. ENGINEERING WORKS	DIBRUGARH
12	205062	POWER GRID ASSOCIATES	DULIAJAN

OIL INDIA LIMITED
(A Govt. of India Enterprise)
P.O. Duliajan-786602, Assam
E-mail:material@oilindia.in, **Fax No.**91-374-2800533

Tender No. & Date : DID3064L14/L3 28.03.2014

Bid Security Amount : INR 0.00 OR USD 0.00
(or equivalent Amount in any currency)

Bidding Type : Single Bid (Composite Bid)

Bid Closing On : 08.05.2014 at 13:00 hrs. (IST)
Bid Opening On : 08.05.2014 at 13:00 hrs. (IST)

Performance Guarantee : Not Applicable

OIL INDIA LIMITED invites Limited tenders for items detailed below:

Item No./ Mat. Code	Material Description	Quantity	UOM
10 0C000404	**Supply, installation, testing and commissioning of 11kV extensible 4-Way SF6 insulated Ring Main Unit with Four Ring Isolators.** **ITEM SPECIFICATION IS AS PER ANNEXURE-I (enclosed)**	1	NO
	Inst.& Comm.of Panel		
10	Installation & Comm of Panel	1	NO

Standard Notes: (1) VALIDITY : Your offer must be valid for 75 days from the date of bid opening. Offer with inadequate validity will be rejected.

(2) The offer should be submitted in **Duplicate**.

(3) Any sum of money due and payable to the contractor (including Security Deposit refundable to them) under this or any other contract may be appropriated by Oil India Limited and set-off against any claim of Oil India Limited (or such other person or persons contracting through Oil India Limited) for payment of a sum of money arising out of this contract or under any other contract made by the contractor with Oil India Limited (or such other person or persons contracting through Oil India Limited).

(4) In the event you authorize your dealer/stockist/channel partner to quote on your behalf, the dealer/stockist/channel partner while submitting bid should mention on the body of the envelope that they are submitting bid on your behalf.

In the event the dealer/stockist/channel partner do not mention the name of their OEM/principal on the body of the envelope, the offer shall be treated as unsolicited offer and will not be considered for opening.

The dealer/stockist/channel partner should take note of above while submitting bid on behalf of their OEM/principal.

(5) For order with F.O.R. Destination term, 100% payment against despatch documents will not be entertained. In this regards please refer payment terms in

ANNEXURE-MM/TENDER/LP/01/06.

(6) To evaluate the inter-se ranking of the offers, Assam Entry Tax on purchase value will be loaded as per prevailing Government of Assam Guidelines as applicable on bid closing date. Bidders may check this with the appropriate authority while submitting their bids.

(7) **Bidders must mention page no./nos. in every pages of their offer.**

ANNEXURE-I

ITEM SPECIFICATION :

1.0 SCOPE

This specification covers supply, installation, testing and commissioning of 11kV extensible SF6 insulated Ring Main Unit at site. The RMU shall be outdoor type comprising four (04) Load Break Isolators and should be tested in accordance to IS/IEC 62271 or equivalent/new standards. It should be ready for operation on delivery. The RMU to be supplied against this specification are required for vital installations where continuity of service is very important. The design, materials and manufacture of the equipment shall, therefore, be of the highest order to ensure continuous and trouble-free service over the years.

2.0 APPLICABLE CODES AND STANDARDS

The latest revision / amendments of the following codes and standards shall be applicable for the equipment:
IS/IEC 62271-part 100: High-voltage alternating-current circuit breakers.
IS/IEC 62271-part 102: Alternating current disconnectors (isolators) and earthing switch.
IS/IEC 62271-part 200: AC metal-enclosed switchgear and controlgear for rated voltage above 1 kV and up to and including 52 kV.
IEC 60376 : Specification and acceptance of new sulphur hexafluoride.
IEC 60529 : Classification of degree of protection provided by enclosures.

3.0 DESIGN AND CONSTRUCTION REQUIREMENTS

3.1 General
3.1.1 The ring main unit shall consist of the following configurations:
-Four (4) ring switches (Isolators) for through feed according to manufacturer's type-tested configuration.
3.1.2 The terminals of the switches shall be suitable for installation of XLPE cable sizes of 3Core 240 sq mm.
3.1.3 All live parts of the switchgear and bus bars assembly shall be grouped together and SF6 gas insulated in a gas-tight stainless steel chamber, and sealed for life.

3.2 Foundation
3.2.1 The party shall develop foundation designs for the RMU based on the information/drawing furnished by the manufacturer of the RMU.

3. 3. Shed construction
The party shall construct shed for RMU panel with the following specification:
3.3.1 Foundation: posts/columns shall be grouted with 1:2:4 concrete to form a block of 600x600x900 mm
3.3.2 Structure: Pitched roof truts 1:3 slope made with MS tubular sections of suitable sizes including columns/posts. All steel sections shall be painted with synthetic enamel over a coat of red-oxide primer.
3.3.3 Colour coated galvalume / zincalume 0.50 mm thick profile sheet.
3.3.4 Flooring (surrounding area): 75 mm thick trowel finished 1:2:4 concrete floor over a layer of flat brick soline over compacted earth.

3.2 System Characteristics
The ring main unit shall be suitable to operate under system parameters.
Electrical and mechanical strength of ring main unit shall be designed to operate in a system to withstand a short circuit current of 21 kA for 3 second or more at 11 kV nominal voltage.

3.3 Current Rating
The continuous current rating of the unit shall be in accordance with relevant IS/IEC standards:
Ring switches (Isolator)- 630 A
Bus Bar- 630 A

3.4 The Load Break Isolator, Bus bars should be mounted inside a welded sealed for life, stainless steel tank of not less than 2.5 mm thick. The tank should be filled with SF6 gas at adequate pressure. The degree of protection for gas tank should be IP67 or more. There shall be provision for filling the SF6 gas at site. The Stainless Steel Gas Tank shall confirm to the sealed pressure system as per IS/IEC and ensure the gas leakage to 0.1 % per year as per IS/IEC.

3.5 Breaking & Making Capacity: The Load Break Cable Switches shall be capable for breaking rated full load current. The same along with its earthing switch shall also be suitable for full making capacity of the system as specified. The complete switchgear shall be suitable for breaking capacity of 20kA symmetrical at 11000 volts three phase. An integral cable earthing switch with full making capacity shall be provided.

3.6 Busbar: Switchgear shall be complete with all connection, bus-bars etc. Copper bus bars continuous rating shall be 630 Amps. The bus bars should be fully encapsulated by SF6 gas inside the steel tank.

3.7 Cable Termination: Each Cable compartment shall be provided with three bushings of adequate sizes to terminate the incoming outgoing 11kV 3 Core XLPE cables of 240 mm sq. There shall be enough height from the base of the mounted switchgear so that the cables can be bent and taken vertically up to the bushings. The Cable termination shall be done by Heat shrinkable Termination method so that adequate clearances shall be maintained between phases for Termination. Access to all the cables should be possible from the front of RMU. Cable Termination boots shall be supplied by the switchgear manufacturer.

4 Technical Specifications:

3.1.0. Switchgear Data

a) Service : Outdoor
b) Type : Metal enclosed
c) Number of Phases : 3
d) System Voltage : 11kV
e) Rated Frequency : 50 Hz
f) Rated Current : 630 Amps
g) System earthing : Solidly earthed

3.2.0. Load Break Switch (Isolators)

a) Type : Load breaking and fault making
b) Rated Current : 630 Amps
c) Rated Breaking capacity (kA rms): 20 kA (min.)
d) Fault making capacity (kA peak) : 50 kA (min.)
e) No. of poles : 3
f) Operating mechanism: Operating handle with ON, OFF, Earth positions with arrangement for padlocking in each position.
g) SF6 Chamber : With SF6 gas pressure guage indicator and filling arrangement.

3.4.0 Busbars
a) Material : Copper
b) Rated Current : 630 Amps
c) Breaking Current for 3 sec. : 20 kA
d) Insulation of Busbars: Heat shrinkable sleeve insulation of 11KV voltage grade should be provided on busbar, its risers & connections and shall be marked in different colour codes for identification of three different phases(R, Y, B).Thickness of busbar sleeve shall be 3 mm and shall be made of Raychem RPG 11 kV grade or similar type

4.4 Load break switch (Isolator)

The LBS offered shall conform to IS/IEC: 62271-102 as amended to date. The LBS shall be triple pole, spring assisted, hand operated, non-automatic type with quick break contacts. 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.

4.5 Switchgear:

4.5.1 Sealed for life, the enclosure shall meet the "sealed pressure system" criteria in accordance with IS/IEC: 62271-200. In addition, manufacturer shall confirm that maximum leakage rate is lower than 0.1% per year. 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.

4.5.2 The switchgear & switchboard shall be designed so that the position of different devices is visible to the operator on the front of the switchboard. The switchboard shall be designed so as to prevent access to all live parts during operation without the use of tools.

4.5.3 RMU should be tested for internal arc fault test as per the latest IS/IEC 62271-200 for 20KA/0.1 sec. This test shall be performed in cable compartment as well as the stainless steel HV enclosure and the valid type test reports shall be submitted for technical evaluation.

4.5.4 The cable compartment cover must be interlocked with the switch position and the operator should get access only once the feeders is switched OFF & EARTHED.

4.6 VOLTAGE INDICATOR LAMPS

The RMU shall be equipped with a voltage indication as per IEC 601958 to indicate whether or not there is voltage on the cables.

4.7 FAULT PASSAGE INDICATORS (FPI):

The Fault Passage Indicator (FPI) with self-contained type requiring no auxiliary power supply shall be integral part of RMU.

4.8 NAMEPLATE/RATING LABEL

Ring main unit shall be provided with Aluminum /Stainless steel / Brass nameplate showing the following information indelibly marked in English:
• Manufacturer's Name
• Type/Model
• OIL's Purchase Order No. & date
• Manufacturer's Serial Number
• Year of Manufacture
• Voltage Rating, kV
• Current Rating, Amps
• BIL, kV
• Short Circuit Rating / Duration, kA / Sec
• Rated Frequency, Hz
• Rated Making Current, kA
• Rated Breaking Current, kA
• Gross Weight, kg

4.9 DANGER PLATES

Danger plate shall be provided and installed at the front of the ring main unit using M5 hot dipped galvanized /stainless steel / brass fasteners (oval head rounded neck bolts with nuts and external tooth lock washers) not removable / accessible from the front i.e. without opening the door / front cover.

4.10 TYPE TESTS:

The offered RMU should have been successfully type tested at NABL laboratories in India or equivalent international laboratories in line with the relevant standard and technical specification, within the last 5 (five) years from the date of offer. The bidder shall be required to submit copies of complete set of the type test reports along with the offer.

4.11. GUARANTEED TECHNICAL PARTICULARS:

The technical particulars as per IS shall be guaranteed and Guaranteed Technical particulars as per Annexure-I shall be furnished by the Bidder alongwith the bid.

5.0 DOCUMENTS/ SUBMITTALS:

5.1 The following documents shall be submitted with the offer
i. GA drawing of the prefabricated RMU showing dimensional details
ii. RMU foundation detailed drawing

iii. Construction of Shed detailed drawing

5.2. The successful bidder shall obtain approval for the following drawings, documents. All electrical details shall be submitted within 45 days of placement of order. OIL shall require minimum 30 days time for approval of drawings. The approval time may increase depending upon clarifications required from the bidders.

i.GA drawing showing all details, including constructional detail and component layout of the prefabricated RMU.

ii. RMU foundation detailed drawing.

iii. Construction of Shed detailed drawing

5.3. Four sets of the following documents shall be submitted with the supply

i. Approved GA drawing showing all details, including constructional detail and component layout for panels

ii. Technical specification of all equipment

iii. Bill of materials with catalogues of various components.

iv. Type test certificates of individual components of the RMU i.e. Isolators, Breaker, Relay etc as per relevant IS/IEC.

v. Guarantee Certificate

vi. List of recommended spare parts with part no. for two year

6.0 SPECIAL NOTES:

6.1 The bidder shall be panel manufacturer of 11kV outdoor type RMU or authorized dealer of manufacturer of 11KV outdoor type RMU. In case of authorized dealer, valid dealership certificate must be submit along with bid

6.2 The bidder must quote for both (a) supply of prefabricated 11KV outdoor type RMU (b) installation, testing and commissioning of prefabricated 11KV outdoor type RMU without which the offer will be rejected

6.3 The Bidder shall have experience of supply, installation, testing and commissioning of minimum 1 set of HT Switchgear in any Central Govt/ State Govt/ PSU in last five years from bid due date. Experience of the manufacture will also be considered for the bidder if the bidder is an authorised dealer.

6.4 The manufacturer shall have designed, engineered, manufactured, tested and supplied in the last five years at least one set of prefabricated 11KV outdoor type 11KV, RMU. And also must have proven track record for operating satisfactorily at least a period of one year as on bid due date.

6.5 The offered prefabricated 11KV outdoor type RMU must have been type tested as per IS/IEC 62271/Relevant IS.

6.6 The bidder shall submit documentary evidence in support of their offer like purchase order/ works order with detailed scope of work and completion certificate, performance certificate and copy of type test certificates along with bid as per Para 6.3, 6.4 & 6.5 above

6.7 Bidder shall confirm in the bid that:

6.7.1 The installation, testing & commissioning of 11KV SF6 outdoor type RMU will be carried out under the supervision of an experienced Electrical supervisor having valid certificate of competency, issued by Govt. of Assam,for carrying out 11kv works.

6.7.2 Services of specialist Engineer from manufacturer shall be required at site for commissioning of the RMU.
6.7.4 Manufacturer of prefabricated 11KV outdoor type RMU shall have the testing facilities to carry out the routine tests of the RMU in their manufacturing works.

7. TEST AND INSPECTION:

7.1 The RMU shall be inspected by OIL engineer at manufacturer's work prior to dispatch.
7.2 Routine tests on the RMU in accordance with IS/IEC shall be carried out at the manufacturers works which shall be witnessed by OIL engineer.
7.3 The supplier will give 15 days' advance intimation to enable depute OIL representative for witnessing the acceptance and routine tests.

8. WARRANTY:

The equipment shall be of best quality and workmanship. The RMU with all the electrical equipments shall be guaranteed for 12 (Twelve) months from the date of commissioning against defects arising due to material, workmanship or design.

Make : ABB / Siemens / Schneider/CG-Lucy

ANNEXURE-I

9. The bidder shall fill up and attache along with the offer the following Guaranteed Technical Particulars for the offerred 4-way Ring Main Unit-11kV extensible RMU (outdoor type)

1.0 SWITCHGEAR ASSEMBLY
1.1 Make
1.2 Type
1.3 Reference Standards
1.4 Voltage (Normal/Max.) kV
1.5 Phase (Nos.)
1.6 Frequency (HZ)
1.7 Short Circuit rating
a) Breaking Symmetrical (KA)
b) Breaking Asymmetrical (KA)
c) Short time for 1 Sec. (KA)
d) Short time for 3 Sec. (KA)
1.8 Insulation Level
a) Impulse withstand (KV peak)
b) 1 Minute 50 Hz. Voltage withstand (KV rms)
1.9 Metal Clad Construction Yes/No
1.10 Degree of protection

1.11 Switchgear completely wire and tested at factory: Yes/No

2.0 CONSTRUCTION
2.1 Overall Dimensions
a. Isolator
i) Length (MM)
ii) Breadth (MM)
iii) Height (MM)
c. Total 4 Way RMU
i) Width (W) (mm)
ii) Depth (D) (mm)
iii) Height (mm)
d. Weight Panel RMU (Kg)

3.0 Bus bar
3.1 Make
3.2 Material & Grade
3.3 Reference Standard
3.4 a) Cross sectional area (mm2)
b) Size (mm2)
3.5 Continuous Current
a) Standard
b) At site conditions and within cubicle
3.6 Maximum temperature rise over ambient (c)
3.7 Short time current for 1 Sec. (KA rms)
3.8 Minimum clearance from bare bus bar connection
a) Phase to phase (mm)
b) Phase to Earth (mm)
3.9 Bus Bar provided with
a) Insulation Sleeve
b) Phase barriers
c) Cast Resin shrouds for joints
3.10 Bus bar connection
a) Silver Plated
b) Made with anti-oxide grease
3.11 Bus Bar support spacing (mm)
3.12 Bus support insulators
a) Make
b) Type
c) Reference Standard
d) Voltage Class (KV)
e) Minimum creepage distance (mm)
f) Cantilever strength Kg/mm2
g) Net Weight (Kg)
3.13 SF6 gas pressure (filing pressure at 20 deg. C)

5.0 Isolators
5.1 Make
5.2 Type

5.3 Reference standard
5.4 Rated voltage (KV)
5.5 Rated Frequency HZ
5.6 No. Of poles (No)
5.7 Rated current
) Normal (Standard) Amps
j) De-rated (site) Amp
5.8 Maximum temperature rise over ambient Deg. C
5.9 Rated operation duty
5.10 Rupturing Capacity at rated voltage MVA
5.11 Rated making current KA peak
5.12 Short time current
a) For 1 sec KA rms
b) For 3 sec KA rms
5.13 Impulse voltage withstand on 1/50 full wave
5.14 Maximum over voltage factor when switching off
a) Loaded feeder cable
5.15 Minimum SF6 Gas pressure required?
5.16 No of isolator operation permissible without requiring inspection, replacement of contacts and other main parts
At 100% rated current
At 100% rated breaking current
5.17 Isolator provided with the following
Mechanical safety
Mechanical ON, OFF, CABLE EARTH indicators
Operation counter
Manual spring charging facility
6.0 CURRENT TRANSFORMER
6.1 Make
6.2 Type & voltage level
6.3 Reference standard
6.4 C.T. ratio as specified
6.5 Rated frequency
6.6 Short circuit withstand
i) Short time current for 1 sec. KA rms
j) Short time current for 3 sec. KA rms
k) Dynamic current KA peak
6.7 Class of insulation
6.8 Temperature rises over ambient. Deg. C
6.9 Basic insulation level
6.10 For tripping
CT RATIO
Class of accuracy
Rated Burden VA