



**ODISHA POWER TRANSMISSION CORPORATION LTD**  
**OFFICE OF THE SR.GENERAL MANAGER(S&S),**  
**JANAPATH, BHUBANESWAR-751022**

**SPECIFICATION FOR LIMITED TENDER**

**Sr.GM(S&S)-Limited-e-Tender. 11 KV RMU-18/2021-22**  
**Supply of 11 KV SF6 5 way smart RMU for Tech Tower Building, OPTCL,**  
**BHUBANESWAR (e-tendering mode only)**

1	Request for online tender documents	From < 11:00 AM > dated < <b>08.10.2021</b> > to < 12:45 PM > dated < <b>29.10.2021</b> >.
2	Last date of submission of online tender	(Part-I & Part-II) : < 1:00 PM > dated < <b>29.10.2021</b> >
3	Date of opening of Tender	Dated < <b>29.10.2021</b> > at < 4:00PM > onwards.



**ODISHA POWER TRANSMISSION CORPORATION LTD.**

**REGD. OFFICE: JANPATH, BHUBANESWAR – 751 022,**

**ODISHA**

**Sr.GM(S&S)-Limited-e-Tender. 11 KV RMU-18/2021-22  
Supply of 11 KV SF6 5 way smart RMU for Tech Tower Building, OPTCL,  
BHUBANESWAR (e-tendering mode only)**

For and on behalf of ODISHA POWER TRANSMISSION CORPORATION LTD, Sr.G.M. [S&S] invites limited Tenders from the following firms in single part bidding system for Supply of out-door type 11 KV SF6 5 way Smart RMU for Tech Tower Building, OPTCL, Bhubaneswar. Complete set of bidding documents are available at [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) from Dated 08.10.2021 (11.00 Hrs) To Dated. 29.10.2021(12.45 Hrs). Interested manufacturers may visit OPTCL's official web site <http://www.optcl.co.in> and [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) for detail specification.

Supply of out-door type 11 KV SF6 5 way Smart RMU for Tech Tower Building, OPTCL, Bhubaneswar	<b>1) M/s. SIEMENS Ltd.</b> <b>2) M/s Schneider Electric.</b> <b>3) M/s ABB Ltd.</b>
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**N.B:-** All subsequent addendum / corrigendum / extension regarding this tender shall be hosted in [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) only.

Sd./-

**SENIOR GENERAL MANAGER [S&S]**

**NOTICE INVITING TENDER**  
**ODISHA POWER TRANSMISSION CORPORATION LTD.,**  
**REGD. OFFICE: JANPATH, Bhubaneswar.**

**Sr.GM(S&S)-Limited-e-Tender. 11 KV RMU-18/2021-22**

For and on behalf of the ODISHA POWER TRANSMISSION CORPORATION LTD., the undersigned invites bids under single-part bidding system in e- tendering mode only as per the following details.

Sl. No	Tender Specification No.	Description of supply of equipment/materials	Delivery period.	Earnest Money Deposit (In Rs.)	Cost of Tender Spec. document (in Rs.)	Last date of receipt & opening of tender
1.	<b>Sr.GM(S&amp;S)-Limited-e-Tender. 11 KV RMU-18/2021-22</b>	Supply of outdoor type 11 KV SF6 5 way Smart RMU for Tech Tower Building, OPTCL, Bhubaneswar	03 (Three) months from the issue of P.O	Nil	6,000+ GST 18%- 1080/- =7,080/-	< 1:00 PM > dated <29.10.2021 >& Dated 29.10.2021 (04.00 PM)

The bidders can view the tender documents from Tender Portal free of cost.

The bidders who want to submit bids shall have to pay non-refundable amount of Rs. 7,080/- (Rupees Seven thousand Eighty) only including GST @ 18%) towards the tender cost, in the form of Demand draft/Pay order only, drawn in favour of the “G. M. Store Circle, OPTCL” payable at “Bhubaneswar”. They have to submit notarized hard copy of GST registration certificate on or before the date & time of opening of bid.

The bidders shall have to submit non-refundable amount of Rs. 1298/- (Rupees One thousand two hundred ninety eight) only including GST @ 18%) towards the tender processing fee to K.S.E.D.C.Ltd, in e-payment mode. The e-payment of above amount is to be made to enable the bidder to down load the bid proposal sheets & bid document in electronic mode.

The bidder shall deposit the tender cost & tender processing fee prior to date & time for opening of bid as notified in tender notice.

The demand draft/pay order for tender cost, processing fees are to be submitted along with the EMD declaration Form at the office of the undersigned on or before the scheduled date & time of opening of tender.

The bidders shall scan the Demand Draft/Pay order/ Bank guarantee and upload the same in the prescribed format in .gif or .jpg format in addition to sending the original as stated above.

The prospective bidders are advised to register their user ID, Password, company ID from website [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) by clicking on hyper link “Register Me”.

Any clarifications regarding the scope of work and technical features of the tender can be obtained from the undersigned during office hours.

***Minimum qualification criteria of bidders: AS STIPULATED IN SECTION-II, (G.T.C.C) OF THE TENDER SPECIFICATION.***

Sd./-

**SENIOR GENERAL MANAGER,  
STORES & SERVICES, CIRCLE, BHUBANESWAR**

**ODISHA POWER TRANSMISSION CORPORATION LTD.**

**OFFICE OF THE SR. GENERAL MANAGER**

**STORES & SERVICES, CIRCLE, OPTCL**

**JANAPATH, BHUBANESWAR – 751022**

**Sr.GM(S&S)-Limited-e-Tender. 11 KV RMU-18/2021-22**

**CONTAINING**

**SECTION – I :INSTRUCTION TO TENDERERS**

**SECTION – II :GENERAL TERMS AND CONDITIONS OF  
CONTRACT ( G.T.C.C.) (COMMERCIAL)**

**SECTION – III :LIST OF ANNEXURES (COMMERCIAL)**

**SECTION – IV :TECHNICAL SPECIFICATION**

**SECTION – V PRICE BID.**

***PART – I.***

**SECTION – I.**

**INSTRUCTIONS TO TENDERERS**

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**COMMERCIAL SPECIFICATION.**

**P A R T - I**

**S E C T I O N - I**

**INSTRUCTIONS TO TENDERERS**

**1. Submission of Bids:-**

The bidder shall submit the bid in Electronic Mode only i.e through [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL). The bidder must ensure that the bids are received in the specified website of the OPTCL by the date and time indicated in the Tender notice. Bids submitted by telex/telegram will not be accepted. No request from any bidder to the OPTCL to collect the Bids in physical form will be entertained by the OPTCL.

The OPTCL reserves the right to reject any bid, which is not deposited according to the instruction, stipulated above. The participants to the tender should be registered under GST Laws.

1. For all the users it is mandatory to procure the Digital Signatures of Class-III.
2. Contractors / Vendors / Bidders / Suppliers are requested to follow the below steps for Registration:
  - a. Click “Register”, fill the online registration form.
  - b. Pay the amount of Rs. 2360/- through e-payment/DD in favour of K S E D C Ltd Payable at Bangalore.
  - c. Send the acknowledge copy for verification.
  - d. As soon as the verification is being done the e-tender user id will be enabled.
3. After viewing Tender Notification, if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs.
4. If any Bidder wants to participate in the tender he will have to follow the instructions given below:
  - a. Insert the PKI (which consist of your Digital Signature Certificate) in your System.  
(Note: Make sure that necessary software of PKI be installed in your system).
  - b. Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).

- c. Go to Start > Programs > Internet Explorer.
  - d. Type [www.tenderwizard.com/OPTCL](http://www.tenderwizard.com/OPTCL) in the address bar, to access the Login Screen.
  - e. Enter e-tender User Id and Password, click on “Go”.
  - f. Click on “Click here to login” for selecting the Digital Signature Certificate.
  - g. Select the Certificate and enter DSC Password.
  - h. Re-enter the e-Procurement User Id Password
5. To make a request for Tender Document Bidders will have to follow below mentioned steps.
- Click “Un Applied” to view / apply for new tenders.
  - Click on Request icon for online request.
6. After making the request Bidders will receive the Tender Documents which can be checked and downloaded by following the below steps:
- Click to view the tender documents which are received by the user.
  - Tender document screen appears.
  - Click “Click here to download” to download the documents.
7. After completing all the formalities Bidders will have to submit the tender and they must take care of following instructions.
- Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not.
  - Note down / take a print of bid control number once it displayed on the screen
8. Tender Opening event can be viewed online.
9. Competitors bid sheets are available in the website for all.
10. **For any e-tendering assistance contact help desk number mentioned below.**
- Bangalore – 080- 40482000.

The participants to the tender should be registered under GST Laws.

**2. Division of Specification.**

The specification is mainly single part

**Part Consists of**

- |                   |                                         |
|-------------------|-----------------------------------------|
| [i] Section-I     | Instruction to Tenderers.               |
| [ii] Section-II   | General Terms & conditions of contract. |
| [iii] Section-III | Schedules and forms etc.                |
| [iv] Section-IV   | Technical Specification.                |



Schedule of prices as per Annexure-V

**3. Tenders shall be in single part.**

The Tenderers are required to submit the tenders in single part.

**4. Opening of Bids.**

- [a] The tender shall be opened on the date and time fixed by the OPTCL for opening of bids in Electronic mode in presence of such of the Tenderers or their authorized representatives [limited to one person only] on the due date of opening of tender who opt remain present. After scrutiny of the technical particulars and other commercial terms, clarifications, if required, shall be sought for from the bidders. The Tenderers shall be allowed 15 days time for such activity.
- [b] On receipt of technical clarification, the bids shall be reviewed, evaluated and those not in conformity with the technical Specification / qualifying experience, shall be rejected. If any of the technical proposal requires modification to make them comparable, discussion will be held with the participating bidders.

All the responsive bidders shall be given opportunity to submit the revised technical and revised price proposals as a follow up to the clarification (modification if any) on the technical proposals. The qualified bidders shall be given opportunity to submit revised price proposals within 15 days from the date of such discussion or within time frame mutually agreed, whichever is earlier.

- [c] When the revised price proposals are received, the original price proposals will be returned to the bidders unopened along with their original technical proposals. Only the revised technical and price proposals will be considered for bid evaluation.
- [d] The bidders are required to furnish sufficient information to the Purchaser to establish their qualification, capacity to manufacture and/or supply the materials/perform the work. Such information shall include details of bidder's experience, its financial, managerial and technical capabilities.

- [e] The bidders are also required to furnish details of availability of appropriate technical staff and capability to perform the supervision of erection & commissioning along with after sales services. The above information shall be considered during scrutiny and evaluation of bids and any bid which does not satisfactorily meet these requirements, shall not be considered for price bid evaluation.
- [f] The price bids of the technically and otherwise acceptable bids shall only be evaluated as per the norms applicable in terms of this Specification.

**5. Purchaser's Right Regarding Alteration of Quantities Tendered.**

**The Purchaser may alter the quantities of materials/equipment at the time of placing orders. Initially the purchaser may place orders for lesser quantity with full freedom to place extension orders for further quantity under similar terms and conditions of the original orders. Orders may also be split among more than one tenderer for any particular item, if considered necessary in the interest of the Purchaser to get the goods/equipment earlier.**

**6. Procedure and opening time of tenders.**

Tenders will be opened in the office of the Senior General Manager [S&S] on the specified date and time in presence of the Tenderers or their authorized representatives [limited to one person only] in case of each bidder who may desire to be present, at the time of opening the bids.

**7. Bidder's Liberty to deviate from Specification.**

The Tenderer may deviate from the specification while quoting, if in his opinion, such deviation is in line with the manufacturer's standard practice and conducive to a better and more economical offer. All such deviations should however be clearly indicated giving full justifications for such deviation. [Read with Clause-9, Section-II of the Specification].

**8. Eligibility for submission of bids.**

Only those manufacturers who have deposited the cost of obtaining tender specification are eligible to participate in the tender. They should submit the money receipt as a proof of such payment.

**9. Purchaser's right to accept/reject bids:**

The purchaser reserves the right to reject any or all the tenders without assigning any reasons what so ever if it is in the interest of OPTCL, under the existing circumstances. [Read with clause-10, Section-II of the specification].

**10. Mode of submission of Tenders.**

[A] Tenders shall be submitted in electronic mode only.  
(www.tenderwizard.com/OPTCL)

[B] **Telegraphic or FAX tenders** shall not be accepted under any circumstances.

**11. Earnest money deposit:**

There shall be no provisions for Bid Security in lieu of EMD in the bid documents for the above work. However, the tenderers should furnish the EMD declaration form as per **Annexure-I**.

**12. Validity of the Bids: -**

The tenders should be kept valid for a period of **180** days from the date of opening of the tender, failing which the tenders will be rejected.

**13. PRICE: -**

i) Tenderers are requested to quote-'FIRM' Price subject to Reverse Auction. No deviation from **FIRM PRICE after RA** will be entertained irrespective of deviation clause No.7 of this part of the specification.

**14. Revision of tender price by Bidders: -**

[a] After opening of tenders and within the validity of period, no reduction or enhancement in price will be entertained subject to RA. If there is any change in price, the tender shall stand rejected.

[b] After opening of price bid if the validity period is not sufficient to place purchase order, the tenderer may be asked by the purchaser to extend the validity period of the bid under the same terms and condition as per the original tender.

However, the tenderer are free to change any or all conditions including price except delivery period of their bids at their own risk, if they are asked by the purchaser to extend the validity period of the bid prior to opening of price bid.

**15. Tenderers to be fully conversant with the clauses of the Specification: -**

Tenderers are expected to be fully conversant with the meaning of all the clauses of the specification before submitting their tenders. In case of doubt regarding the meaning of any clause, the tenderer may seek clarification in writing from the Senior General Manager (S&S) OPTCL. This, however, does not entitle the Tenderer to ask for time beyond due date, fixed for receipt of tender.

**16. Documents to Accompany Bids.**

Tenderers are required to submit tenders in the following manner:

**The Tender shall contain the following documents.**

- [i] Declaration Form. [As per Annexure-I]
- [iii] Technical specification and Guaranteed Technical Particulars conforming to the Purchaser's Specification along with drawings, literatures and all other required Annexures, duly filled in.
- [iv] Photostat copies of type test certificates of materials/equipment offered as stipulated in the Technical Specification.
- [v] Abstract of Terms & conditions in prescribed proforma as per **Annexure-II**.
- [vi] General Terms & Conditions of supply offer as per Section-II of the Specification.
- [vii] List of orders executed for similar materials/equipment during preceding 2 (two) years indicating the customer's name, Purchase Order No. & Date, date of supply and date of commissioning etc.
- [viii] Data on past experience **as per Clause-7 of Section-II** of the Specification.
- [ix] GST Compliance Rating. The GST Identification Number (GSTIN) under GST Laws and permanent account number [PAN] of the firm under Income tax Act are required.
- [x] Audited Balance sheet & profit loss accounts of the bidder, for past (3) three years.
- [xi] Schedule of quantity and delivery in the prescribed Proforma vide Annexure, as appended.
- [xii] List of Orders in hand to be executed.
- [xiii] Deviation schedule.
- [xiv] The bidder should not have any pending litigation or arbitration with OPTCL with regard to any project or related activity. The bidder should certify/declare the same in unequivocal terms by way of an affidavit duly sworn before a magistrate/notary.

**17. Documents/Papers to accompany Bid.**

- (a) Price bid of the tender shall consist of the following
  - (i) Schedule of prices in the prescribed proforma

**18. Conditional Offer:**

Conditional offer shall not be accepted.

**19. General: -**

- (i) In the event of discrepancy or arithmetical error in the schedule of price, the decision of the purchaser shall be final and binding on the Tenderer.
- (ii) For evaluation, the price mentioned in words shall be taken if there is any difference in figures and words in the price bid.
- (iii) Notice inviting tender shall form part of this specification.
- (iv) The price bids of the technically and otherwise acceptable bids shall only be evaluated.
- (v) It should be distinctly understood that the price bid shall contain only details/documents relating to price, as outlined in clause-17 mentioned herein above. Inclusion of any of the documents/information etc. shall render the bid liable for rejection.

**20.0 Expenses in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site.**

The testing and inspection of the equipment/ materials at manufacturer works are in the scope of work of the Contractor/Supplier.

OPTCL inspecting officer, on receipt of offer for inspection from the contractor/supplier, proceeds to the manufacturer works to witness the Type/Acceptance/Routine test.

Important:

It is hereby informed to all the bidders that the relevant clauses of the contract specification, pertaining to inspection and testing of equipment/materials, are hereby supplemented with following additional terms and conditions.

The expenses under the following heads, in respect of OPTCL's representative for witnessing the inspection & testing of the offered equipment/materials at the inspection and testing site, shall be borne by the contractor / supplier.

**a) Hotel Accommodation:**

- I. Single room accommodation in 4 star hotel for the OPTCL inspecting officer of the rank of Assistant General Manager (Grade E-6) and above.

- II. Single room accommodation in 3 star hotel for the OPTCL inspecting officer of the rank below Assistant General Manager (Grade E-6).

N.B.: It is the responsibility of the contractor to arrange the hotel accommodation matching with their inspection and testing schedule, so that the inspecting officer can check-in the hotel one day prior to the date of inspection and check out after the completion of the inspection, subject to availability of the return travel ticket. In case of extended duration of inspection or non-availability of the return travel ticket, Contractor/supplier/manufacturer shall arrange for the extended stay of the inspecting officer in the Hotel accordingly. In case there is no hotel with prescribed standard in and around the place of inspection, the contractor/supplier/manufacturer shall suggest alternative suitable arrangement at the time of offer for inspection, which is subjected to acceptability of OPTCL inspecting officer.

**b) Journey of the inspecting officer:**

- (i) To and fro travel expenditure from the Head Quarters of the inspecting officer to the place of inspection/testing shall be borne by the contractor/supplier/manufacturer. Journey from the Head Quarters of the inspecting officer to the nearest Air Port by train (Ist/IIInd A.C) & A/C Taxi then by Air to the place of inspection/testing or to the nearest place of inspection/testing and then by train (Ist/IIInd A.C) & A/C taxi to the place of inspection/testing shall be arranged by the contractor/supplier/manufacturer.
- (ii) For train journey, inspecting officer of the rank Assistant General Manager and above shall be provided with 1st class AC ticket and inspecting officer below the rank of Assistant General Manager shall be provided with 2nd class AC ticket.
- (iii) The Air-ticket / train-ticket booking/cancellation is the responsibility of the contractor / supplier.
- (iv) Moreover, if during the journey there is an unavoidable necessity for intermediate travel by road/ waterway/sea-route, the contractor/supplier shall provide suitable conveyance to the inspecting officer for travel this stretch of journey or bear the cost towards this. Any such possibilities shall be duly intimated to OPTCL at the time of their offer for inspection.

**c) Local Conveyance:**

At the place of the inspection/testing, for local journey of the inspecting officer between Hotel and inspection/testing site and or any other places, Air-conditioned four wheeler vehicle in good condition shall be provided by the contractor/supplier/manufacturer.

**d) Following points are also to be considered:**

- (i) All the above expenses shall be deemed to be included in the bidder's quoted price for that supply item. Bidder shall not be eligible to raise any extra claim in this regard.

- (ii) Contractor/supplier/manufacturer may assume that only in 40% of the inspection and testing offer cases, OPTCL inspecting officer, not below the rank of Assistant General Manager will witness the inspection and testing.
- (iii) In case of inspection and testing of some critical equipment/materials like Power transformers, OPTCL may depute more than one inspecting officer.
- (iv) Contractor/supplier/manufacturer shall judiciously plan the inspection/testing schedule and place of inspection/testing, so that optimum number of inspection/testing and minimum time shall be required to cover all the equipment/materials of the relevant contract package.
- (v) It shall be the responsibility of the Contractor/Supplier to organize the above tour related matters of OPTCL inspecting officer including the matters related to overseas inspection/testing, if any.

**21. Litigation / Arbitration:**

**21.0 (a).** Detailed information on any litigation or arbitration arising out of contract completed or under execution by it over the last five years. A consistent history of litigation by or against the bidder may result in rejection of bid.

**21.0 (b).** The bidder should not have any pending litigation or arbitration with OPTCL with regard to any project or related activity. The bidder should certify / declare the same in the unequivocal terms by way of an affidavit duly sworn before a magistrate/notary. Bid furnished by the bidder shall not be eligible for consideration if it is not accompanied by the affidavit. Further the bid / LOA/ LOI shall be liable for outright rejection/ cancellation at any stage if any information contrary to the affidavit / declaration is detected.

**SECTION – II.**

**GENERAL TERMS AND CONDITIONS OF CONTRACT [G.T.C.C.]**

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PART-I

SECTION-II

**GENERAL TERMS AND CONDITIONS OF CONTRACT [G.T.C.C.]**

1. **Scope of the contract:**

The scope of the contract shall be to design, manufacture, supply of equipment as per the specification including supervision of erection & commissioning works at the consignee's site, and rendering services in accordance with the enclosed technical specification and bill of quantity.

2.0 **Definition of terms:**

For the purpose of this specification and General Terms and Conditions of contract [GTCC], the following words shall have the meanings hereby indicated, except where otherwise described or defined.

2.1 "The Purchaser" shall mean the Senior General Manager[S&S] for and on behalf of ODISHA POWER TRANSMISSION CORPORATION LTD., Bhubaneswar.

2.2 "The Engineer" shall mean the Engineer appointed by the Purchaser for the purpose of this contract.

2.3 "Purchaser's Representative" shall mean any person or persons or consulting firm appointed and remunerated by the Purchaser to supervise, inspect, test and examine workmanship and materials of the equipment to be supplied.

2.4 "The supplier" shall mean the bidder whose bid has been accepted by the purchaser and shall include the bidder's executives, administrators, successors and permitted assignees.

2.5 "Equipment" shall mean and include all machinery, apparatus, materials, and articles to be provided under the contract by the suppliers.

2.6 "Contract Price" shall mean the sum named in or calculated the bid.

2.7 "General Condition" shall mean these General Terms and Conditions of Contract.

2.8 "The Specification" shall mean both the technical as well as commercial parts of the specification annexed to or issued with GTCC and shall include the schedules and drawings, attached thereto as well as all samples and pattern, if any.

2.9 "Month" shall mean "Calendar month".

2.10 "Writing" shall include any manuscript, type written, printed or other statement reproduction in any visible form and whether under seal or under hand.

2.11 "Basic Price (Taxable value for Goods) at the point of destination" shall mean the price quoted by the bidder for equipment and material at the consignee's store/site. The cost is inclusive of packing, forwarding, freight, insurance and all expenses and taxes & duties at the end of the supplier excluding Goods &

Service Tax. The Goods & Service Tax shall be shown in a separate column item wise alongside the Basic Price quoted at the applicable rate in the Tax Invoice. The applicable rate of GST shall refer to the HSN code of the material supplied. The Basic Price and GST thereon shall be the “FOR Destination Price” as quoted by the bidder.

- 2.12 The term “Contract document” shall mean and include GTCC, specifications, schedules, drawings, form of tender, Notice Inviting Tender, covering letter, schedule of prices or the final General Conditions, any special conditions, applicable to the particular contract.
- 2.13 Terms and conditions not herein defined shall have the same meaning as are assigned to them in the Indian Contract Act, failing that in the Odisha General Clauses Act.

3. **Manner of execution:**

All equipment supplied under the contract shall be manufactured in the manner, set out in the specification or where not set out, to the reasonable satisfaction of

the Purchaser’s representative.

4. **Inspection and Testing:**

- [i] The purchaser’s representative shall be entitled at all reasonable times during manufacture to inspect, examine and test at the supplier’s premises, the materials and workmanship of all equipment/materials to be supplied under this contract and if part of the said equipment/material is being manufactured in other premises, the supplier shall obtain for the purchaser’s representative permission to inspect, examine and test as if the equipment/material were being manufactured in the contractor’s premises. Such inspection, examination and testing shall not relieve the supplier from his obligations under the contract.
- [ii] The Supplier shall give to the purchaser adequate time/notice (at least clear 15 days for inside the state suppliers and 20 days for outside the state suppliers) in writing for inspection of materials indicating the place at which the equipment/material is ready for testing and inspection and shall also furnish the shop Routine Test Certificate, Calibration certificates of Testing instruments, calibrated in Govt. approved laboratory with authenticity letter of that laboratory along with the offer for inspection. A packing list along with the offer, indicating the quantity which can be delivered in full truck load/Mini truck load to facilitate issue of dispatch instruction shall also be furnished.
- [iii] Where the contract provides for test at the Premises of the supplier or any of his sub-vendors, the supplier shall provide such assistance, labour, materials, electricity, fuel and instruments, as may be required or as may be reasonably

demanded by the Purchaser's representative to carryout such tests efficiently. The supplier is required to produce shop routine test Certificate, calibration certificates of Testing Instruments before offering their materials/equipment for inspection & testing. The test house/laboratory where tests are to be carried out must be approved by the Govt. A letter pertaining to Govt. approved laboratory must be furnished to the purchaser along with the offer for inspection.

- [iv] After completion of the tests, the Purchaser's representative shall forward the test results to the Purchaser. If the test results conform to the specific standard and specification, the Purchaser shall approve the test results and communicate the same to the supplier in writing. The supplier shall provide at least five copies of the test certificates to the Purchaser.
- [v] The Purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is dispute regarding the quality of supply.
- [vi] If the firm fails to present the offered items for inspection/testing as per their inspection call due to any reason(s) during the visit of inspecting officer at the testing site ,the firm shall have to bear all expenses towards repetition of inspection and testing of the total offered quantity or part thereof.

5. **Training facilities.**

The supplier shall provide all possible facilities for training of Purchaser's Technical personnel, when deputed by the Purchaser for acquiring first hand knowledge in assembly of the equipment, its erection, commissioning and for its proper operation & maintenance in service, wherein it is thought necessary by the purchaser.

6. **Rejection of Materials.**

In the event any of the equipment /material supplied by the manufacturer is found defective due to faulty design, bad workmanship, bad materials used or otherwise not in conformity with the requirements of the Specification, the Purchaser shall either reject the equipment/material or ask the supplier in writing to rectify or replace the defective equipment/material free of cost to the purchaser. The Supplier on receipt of such notification shall either rectify or replace the defective equipment/material free of cost to the purchaser within 15 days from the date of issue of such notification by the purchaser. If the supplier fails to do so, the Purchaser may:-

- [a] At its option replace or rectify such defective equipment /materials and recover the extra costs so involved from the supplier plus fifteen percent and/or.
- [b] Terminate the contract for balance work/supplies, with enforcement of price reduction Clause as per contract for the un-delivered goods and with forfeiture of Performance Guarantee/ Composite Bank guarantee.
- [c] Acquire the defective equipment/materials at reduced price, considered equitable under the circumstances.

**7. Experience of Bidders:**

The bidders should furnish information regarding experience particularly on the following points:

- [i] Name of the manufacturer:
- [ii] Standing of the firm and experience in manufacture of equipment/material quoted:
- [iii] Description of equipment/material similar to that quoted, supplied and installed during the last two years with the name(s) of the Organizations to whom supplies were made wherein, at least one (1) certificate shall be from a state/central P.S.U.
- [iv] Details as to where installed etc.
- [v] Testing facilities at manufacturer's works.
- [vi] If the manufacturer is having collaboration with another firm [s], details regarding the same.
- [vii] A list of purchase orders of identical material/equipment offered as per technical specification executed during the last two years along with users certificate. User's certificate shall be legible and must indicate, user's name, address, designation, place of use, and satisfactory performance of the equipment/materials for at least two years from the date of commissioning. Wherein at least one (1) certificate shall be from a State/Central or P.S.U. Bids will not be considered if the past manufacturing experience is found to be unsatisfactory or is of less than 2 (two) years on the date of opening of the bid and bids not accompanying user's certificate will be rejected.

**8. Language and measures:**

All documents pertaining to the contract including specifications, schedule, notices, correspondence, operating and maintenance instructions., drawings or any other writing shall be written in English language. The metric system of measurement shall be used exclusively in this contract.

**9. Deviation from specification:**

It is in the interest of the tenderers to study the specification, specified in the tender schedule

thoroughly before tendering so that, if any deviations are made by the Tenderers,(both commercial and Technical), the same are prominently brought out on a separate sheet under heading "Deviations Commercial" and "Deviations Technical".

A list of deviations shall be enclosed with the tender. Unless deviations in scope, technical and commercial stipulations are specifically mentioned in the list of deviations, it shall be presumed that the tenderer has accepted all the

conditions, stipulated in the tender specification, notwithstanding any exemptions mentioned therein.

10. **Right to reject/accept any tender:**

The purchaser reserves the right either to reject or to accept any or all tenders if the situation so warrants in the interest of the purchaser. Orders may also be split up between different Tenderers on individual merits of the Tenderer. The purchaser has exclusive right to alter the quantities of materials/ equipment at the time of placing final purchase order. After placing of the order, the purchaser may defer the delivery of the materials. It may be clearly understood by the Tenderer that the purchaser need not assign any reason for any of the above action [s].

11. **Supplier to inform himself fully:**

The supplier shall examine the instructions to tenderers, general conditions of contract, specification and the schedules of quantity and delivery to satisfy himself as to all terms and conditions and circumstances affecting the contract price. He shall quote price [s] according to his own views on these matters and understand that no additional allowances except as otherwise provided there in will be admissible. The purchaser shall not be responsible for any misunderstanding or incorrect information, obtained by the supplier other than the information given to the supplier in writing by the purchaser.

12. **Patent rights Etc.**

The supplier shall indemnify the Purchaser against all claims, actions, suits and proceedings for the infringement of any patent design or copy right protected either in the country of origin or in India by the use of any equipment supplied by the manufacturer. Such indemnity shall also cover any use of the equipment, other than for the purpose indicated by or reasonably to be inferred from the specification.

13. **Delivery:-**

[a] Time being the essence of the contract; the equipment shall be supplied within the delivery period, specified in the contract. The Purchaser, however, reserves the right to reschedule the delivery and change the destination if required. The delivery period shall be reckoned from the date of placing the Letter of Intent/Purchase order, as may be specified in LOI/Purchase order.

- [b] The desired delivery period shall be as indicated at Appendix-II (Quantity & Delivery Schedule) of Section-IV (Technical Specification).

14. **Despatch instructions.**

- I] The equipment / material should be securely packed and dispatched directly to the specified site at the supplier's risk by Road Transport only.

- II] **Loading & unloading of Ordered Materials.**

It will be the sole responsibility of the supplier for loading and unloading of materials both at the factory site and at the destination site/store.

The Purchaser shall have no responsibility on this account.

15. **Supplier's Default Liability.**

- [i] The Purchaser may, upon written notice of default to the supplier, terminate the contract in circumstances detailed hereunder.

- [a] If in the judgement of the Purchaser, the supplier fails to make delivery of equipment/material within the time specified in the contract or within the period for which if extension has been granted by the Purchaser in writing in response to written request of the supplier.

- [b] If in the judgement of the Purchaser, the supplier fails to comply with any of the provisions of this contract.

- [ii] In the event, Purchaser terminates the contract in whole or in part as provided in Clause-15 (I) of this section, the Purchaser reserves the right to purchase upon such terms and in such a manner as he may deem appropriate in relation to the equipment/material similar to that terminated and the supplier will be liable to the Purchaser for any additional costs for such similar equipment/material and/or for price reduction for delay as defined in clause-22 of this section until such reasonable time as may be required for the final supply of equipment.

- [iii] In the event the Purchaser does not terminate the contract as provided in clause 15(I) of this Section, supplier shall be liable to the Purchaser for price reduction for delay as set out in Clause-22 of this section until the equipment is accepted. This shall be based only on written request of the supplier and written willingness of the Purchaser.

16 **Force Majeure:**

The supplier shall not be liable for any price reduction for delay or for failure to perform the contract for reasons of force majeure such as acts of god, acts of the public enemy, acts of Govt., Fires, floods, epidemics, Quarantine restrictions, strikes, Freight Embargo and provided that the supplier shall within Ten (10)days from the beginning of delay on such

account notify the purchaser in writing of the cause of delay. The purchaser shall verify the facts and grant such extension, if facts justify.

**17. Extension of time:-**

If the delivery of equipment/material is delayed due to reasons beyond the control of the supplier, the supplier shall without delay give notice to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice may or may not agree to extend the contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract.

**18. Guarantee period: - ( As per clause 35 of the technical specification.**

- [i] The stores covered by this specification should be guaranteed for satisfactory operation and against defects in design, materials and workmanship for a period of 18 months from the date of commissioning or 24 months from the date of delivery whichever is earlier. The above guarantee certificate shall be furnished in triplicate to the purchaser for his approval. Any defect noticed during this period should be rectified by the supplier free of cost to the purchaser provided such defects are due to faulty design, bad workmanship or bad materials used, within one month upon written notice from the purchaser failing which provision of clause 22 (ii) shall apply.
- [ii] Equipment/material failed or found defective during the guarantee period shall have to be guaranteed after repair/replacement for a further period of 18 months from the date of commissioning or 24 months from the date of delivery whichever is earlier. The Bank Guarantee is to be extended accordingly. Date of delivery as used in this clause shall mean the date on which the materials are received in OPTCL'S stores/site in full & good condition which are released for Despatch by the purchaser after due inspection.

**19. B.G. towards security deposit, 100% payment and performance guarantee:**

- [i] For manufacturers situated Inside & out side the state of Odisha.

A Composite Bank Guarantee as per the Proforma enclosed at Annexure-VII of the specification for 3% [three percent] of the Total Landing cost (Taxable Value plus GST thereon) of the purchase order shall be furnished from any nationalized/scheduled bank having a place of business at Bhubaneswar, to the office of Sr.General Manager [S&S] OPTCL within 15 days from the date of issue of the purchase order,. The BG shall be executed on non-judicial stamp paper worth of Rs.29.00 [Rupees twenty nine] only or as per the prevalent rules,



valid for a period of 26 months from the last date of completion period, for scrutiny and acceptance, failing which the supply order will be liable for cancellation without any further written notices. The BG should be accompanied by a confirmation letter from the concerned bank and should have provision for encashment at Bhubaneswar, before the Bank Guarantee is accepted and all concerned intimated. The B.G should be revalidated as and when intimated to you to cover the entire guarantee period.

- [ii] No interest is payable on any kind of Bank Guarantee.
- [iii] In case of non-fulfillment of contractual obligation, as required in the detailed purchase order/Specification, the composite Bank guarantee shall be forfeited.

**20. Import License**

In case imported materials are offered, no assistance will be given for release of Foreign Exchange. The firm should arrange to import materials from their own quota. Equipment of indigenous origin will be preferred.

**21. (A) Terms of Payment.**

i) 100% taxable value of each consignment with 100% Goods and Services Tax in full as applicable will be paid on receipt of materials in good condition at stores/desired site and verification & commissioning thereof, subject to furnishing and approval of a. Contract cum Performance Bank Guarantee at the rate of 3% (Three percent) of Taxable Value plus GST thereon b. Guarantee certificate, c. Test certificate by the Purchaser.

ii) TDS under GST Laws shall be deducted, as applicable.

iii) TDS: The statutory deduction of taxes at source as applicable, related to these works, shall be made by OPTCL from the contractor's bill for which the contractor cannot claim any reimbursement. TDS so deducted shall be deposited with the relevant tax authorities and TDS certificates shall be issued by OPTCL, wherever so required under the respective law.

iv) Any imposition of new tax or revision of tax shall be paid/reimbursed at the time of dispatch, scheduled or actual whichever is lower (i.e. If delivery is within schedule period, tax variation as applicable shall be paid, and if delivery is made beyond schedule date, any additional financial implication due to statutory variation in tax shall be to bidder's account)

**[B]** The supplier shall furnish contract cum performance Bank Guarantee of appropriate amount to OPTCL as indicated in (i) above, within 30 days from the date of issue of the purchase order.

**22. Price Reduction Schedule for Delay in Completion of Supply under Purchase Order/Contract**

(i) If the Supplier fails to deliver the materials/equipment/supervise commissioning within the delivery schedule, specified in the Purchase Order/Contract including delivery time extension, if any, granted with waiver of Price Reduction Schedule, the Purchaser shall recover from the Supplier, Price

Reduction Schedule for a sum of half per cent (0.5 per cent) of the Taxable Value of the un-delivered equipment /materials/un-completed portion for each calendar week of delay or part thereof. For this purpose, the date of receipted challan/joint measurement certificate shall be reckoned as the date of delivery. The total amount of Price Reduction Schedule shall not exceed five per cent (5%) of the Taxable Value of the un-delivered equipment/materials/ un-completed portion. Equipment will be deemed to have been delivered only when all its components, accessories and spares as per technical Specification are

also delivered. If certain components, accessories and spares are not delivered in time, the equipment/materials will be considered delayed until such time as the missing components, accessories and spares are delivered.

(ii) During the guarantee period, if the Supplier fails to rectify/replace the equipment/material within 30 days from the date of intimation of defect by the purchaser, then the Price Reduction Schedule at the rate of half percent (0.5%) of the Total Taxable Value for each calendar week of delay or part thereof shall be recovered by the purchaser. For this purpose, Price Reduction Schedule shall be reckoned from the 30th day from the date of issue of letter on defectiveness of equipment/material. The total amount of Price Reduction Schedule in this case shall not exceed 3% (THREE PERCENT) of the Purchase Order/Contract amount except GST (i.e.Total Taxable Value). If the defects, so intimated are not rectified or equipment/materials not replaced by the supplier within the guarantee period, then whole of the C.P.B.G. will be forfeited by the purchaser, without any intimation to the supplier.

23. **Insurance**

The Supplier shall undertake insurance of stores covered by this Specification unless otherwise stated. The responsibility of delivery of the stores at destination in good condition rests with the Supplier. Any claim with the Insurance Company or transport agency arising due to loss or damage in transit has to be settled by the supplier. The Supplier shall undertake free replacement of materials damaged or lost, which will be reported by the consignee within 30 days of receipt of the materials at destination without awaiting for the settlement of their claims with the carriers and underwriters.

24. **Payment Due from the Supplier.** All costs and damages, for which the supplier is liable to the purchaser, will be deducted by the purchaser from any money, due to the supplier, under any of the contract (s), executed with OPTCL.

25. **Rating under Goods and Services Tax and Balance sheet and profit & Loss Account:**

The following documents are to be submitted at the time of Tender Submission:

- i. Rating under Goods and Services Tax shall be enclosed with the tender.
- ii. Audited Balance Sheet and Profit & Loss Account of the bidder for the previous three years shall be enclosed to assess the financial soundness of the bidder(s).

**26. Certificate of Exemption from Goods and Services Tax.**

Offers with exemption from Goods and Services Tax shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean attested Photostat copy of exemption certificate. Any claim towards Goods and Services Tax shall be paid on actual basis subject to production of authenticated documentary evidence.

**27. Supplier's Responsibility.**

Notwithstanding anything mentioned in the Specification or subsequent approval or acceptance by the Purchaser, the ultimate responsibility for design, manufacture, materials used and satisfactory performance shall rest with the Tenderers. The Supplier(s) shall be responsible for any discrepancy noticed in the documents, submitted by them along with the bid(s)

**28. Validity.**

Prices and conditions contained in the offer should be kept valid for a minimum period of **180** days from the date of opening of the tender, failing which the tender shall be rejected.

**29. EVALUATION.**

(i) Evaluation of price bids will be on the basis of the FOR DESTINATION PRICE including Goods and Services Tax & other levies as may be applicable subject to Reverse auction. The FORD PRICE shall consist of the following components:

- a) Taxable value of equipment/materials including mandatory spares, if any for maintenance of equipment. (At the discretion of the purchaser)
- b) Goods and Services Tax
- c) Other levies, if any.
- d) Test charges, if any.
- e) Erection, testing and commissioning charges, if any.
- f) Any other items, as deemed proper for evaluation by the purchaser.
- g) Loading will be made for items not quoted by the bidder at the highest rate quoted by other bidders unless particular item is included in other items.
- h) Any imposition of new tax or revision of tax shall be considered between due date of submission of bids and the date of price bid opening.

**Weightage shall be given to the Following factors in the Evaluation & Comparison of Bids.**

In comparing bids and in making awards, the Purchaser will consider other factors such as compliance with Specification, minimum qualification criteria as per clause-30, outright rejection of tenders clause-34 of this tender, relative quality, adaptability of Supplies or services, experience, financial soundness, record of integrity in dealings, performance of materials/equipment earlier supplied, ability to furnish repairs and maintenance services, the time of delivery, capability to perform including available facilities such as adequate shops, plants, equipment and technical organization.

**e-Reverse Auction Procedure shall be as follows.**

<b>STRATEGY FOR E-REVERSE AUCTION</b>	
1	Bidders are required to go through the guide lines given below and submit their acceptance to the same.
2	e-Reverse Auction (RA) will be conducted in e-tender portal of OPTCL on specified date and time, while bidders shall quote from their own offices/places of their choice. Internet connectivity shall be ensured by the respective agencies/bidders themselves.
3	Demonstration/ training (if not trained earlier) of bidder's nominated person(s), shall be done to explain all the rules related to e-Reverse Auction/ Business Rule document to be adopted.
4	The strategy to be used for reverse auction shall be "DYNAMIC TEMPLATE BIDDING"
<b>Procedure for electronic Reverse Auctioning (e-RA):</b>	
5	<p>a. The e-RA shall be conducted on <a href="http://www.tenderwizard/OPTCL.com">www.tenderwizard/OPTCL.com</a> only.</p> <p>b. Bidder has to submit letter towards agreement to the Process related Terms &amp; Conditions for e-Reverse Auction, as per (Reverse Auction Process Compliance Form at Annexure-IB). In non-receipt of the same, vendors will not be allowed to participate in e-RA.</p> <p>c. e-RA shall be carried out after opening of Price bids and completion of Price bid evaluation, which will be intimated only to the techno-commercially qualified bidders by OPTCL as per procedure given below.</p> <p>d. OPTCL reserves the right to conduct e-RA and it is obligatory on part of bidder(s) invited to participate in e-RA process once they have responded to the techno-commercial bid.</p>
6	<p>Prior intimation/ Notice for RA invitation will be given to techno-commercially qualified bidders regarding the date &amp; time of opening of the e-RA.</p> <p>The start bid price (SBP) for e-Reverse Auction of each bidder under a particular package shall be the L1 evaluated price for the subject package including Taxes &amp; Duties for the total scope for subject Package. Taking the above discovered L1 price as the upper limit e-RA will be conducted to determine the lowest possible price.</p> <p>Reverse Auction will be conducted amongst first 50% of the technically qualified bidders arranged in order of prices from lowest to highest, as L1, L2,L3-----Ln, and L1 price will be discovered. Minimum of 3 bidders shall be eligible for e RA. (eg. If 4 bidders are financially evaluated then the L1, L2 and L3 bidders shall be eligible for e-RA). Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of technically qualified bidders is odd (e.g. if 7 bids are technically qualified, then RA will be conducted amongst L1 to L4).</p> <p>However, in case only two bidders are found to be responsive, e-RA would be carried out with both the parties without any elimination. However, OPTCL reserves the right to invite the evaluated L1 bidder for negotiation without conducting the e-RA.</p> <p>In case of price submitted by any bidder is found to be abnormal, OPTCL reserves the right to reject the bid of the bidder(s) .</p>

	Rank of bidders would be displayed as per the total cost to OPTCL, i.e including Taxes and Duties payable by OPTCL as per the provisions of the bidding document & after e-RA process is over.
7	<p>Names of bidders/ vendors shall not be disclosed during the e-RA process. Names of bidders/ vendors shall be anonymously masked in the e-RA process.</p> <p>(i) In case of RA, start/ reference price and step value of decrement shall be indicated to the bidders at the start of the auction. Any participating bidder can bid one or multiple step decrement lower than the prevailing lowest bid at that time. The Bidder shall be able to view Bid Start Price, Bid Decrement Value, Prevailing Lowest Bid value, last Bid Placed by him and time left for bidding.</p> <p>(ii) The step value of decrement in a package to be offered by bidder (the minimum amount of reduction in the total bid price including all taxes &amp; duties during auction) , shall be kept at 0.15% of L1 bidder's final evaluated price (or) at approved amount as decided by OPTCL.</p> <p>(iii) Bidders can only quote any value lower than their previous quoted price. However, at no stage, increase in Price will be permissible.</p> <p>(iv) At any point during Reverse Auction, bidding Price field (Total price) shall remain enabled for the bidders. The total reverse auction period will be for one twenty (120) minutes. The initial auction period (1<sup>st</sup> slot) will be of thirty (30) minutes with provision of auto extension by (10) ten minutes from the schedule/ extended closing time, if any fresh lower bid is received in last ten minutes of initial auction period or extended auction period. Total/ maximum number of auto extension will be for 9 (nine) times after the 1<sup>st</sup> slot. After end of 120 minutes, the reverse auction process shall get closed automatically without any extension.</p> <p>(v) However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the period of e-reverse auction to avoid complication related with internet connectivity, network problem, system crash down, power failure etc.</p>
8	<p>After conclusion of e-Reverse Auction i.e (Closing Price in Reverse Auction will be taken as offered price by the L1 bidder), decrease in price of individual head of the template shall be considered proportionately on all individual line items of the respective head of the price schedule of the successful L1 bidder .</p> <p>Any bid received at the tender wizard server end subsequent to closure of the e-RA shall be summarily rejected and shall not be considered as a valid bid under whatsoever circumstances. For this purpose, tender wizard server log shall prevail.</p> <p>The bidder shall not involve himself or any of his representatives in price manipulation of any kind directly or indirectly by communicating with other bidders.</p> <p>During Reverse Auction, If no bid is received within the specified time, OPTCL, at its discretion, may decide to close the reverse auction process/ proceed with conventional mode of tendering [ Evaluation of Part-II (price bid) submitted by bidders earlier].</p>
9	Consequent upon completion of e-Reverse Auction, OPTCL's decision on award

of contract shall be final and binding on the bidders.

OPTCL shall be at liberty to call the L1 bidder for further process/ negotiation and also at liberty to cancel the e-reverse auction process/ re-tender at any time, without assigning any reason thereof. OPTCL can decide to reschedule or cancel any reverse auction: the bidders shall be informed accordingly.

OPTCL/ Service Provider shall not have any liability to bidders for any interruption or delay in access to the e-Tender site/ Reverse Auction link irrespective of the cause.

**30. Minimum Qualification Criteria of Bidders.**

All the prospective bidders are requested to note that their bids for tendered equipment can only be considered for evaluation if:

The bidder should have conducted type tests on the tendered equipment in Government approved laboratory within five years from the date of opening of the tender.

**31. Jurisdiction of the High Court of Odisha.**

Suits, if any, arising out of this contract shall be filed by either Party in a court of Law to which the jurisdiction of High court of Odisha extends.

**32. Correspondences.**

- i) Any notice to the supplier under the terms of the contract shall be served by Registered Post or by hand at the Supplier's Principal Place of Business.
- ii) Any notice to the Purchaser shall be served at the Purchaser's Principal Office in the same manner.

**33. Official Address of the Parties to the Contract**

The address of the parties to the contract shall be specified:-

- [i] **Purchaser:** Sr.General Manager (S&S)  
ODISHA POWER TRANSMISSION CORPORATION LTD,  
Bhubaneswar-751022. Phone: 0674-2541801/ 2542554
- [ii] **Supplier:** Address  
Telephone No.  
Fax No.

**34. Outright Rejection of Tenders**

Tenders shall be out-rightly rejected if the followings are not complied with.

- [i] The tenderer shall submit the bid in electronic mode only and shall submit the tender cost on or before the scheduled date and time of opening of technical bid.
- [ii] The tenderer shall submit the bid in electronic mode only
- [iii] The Tender shall not be submitted telegraphically or by FAX.
- [iv] The prescribed EMD Declaration shall be submitted on or before the scheduled date and time of opening of technical bid.
- [v] The Tender shall be kept valid for a minimum period of 180 days from the date of opening of tender.

- [vi] The Tender shall be submitted in single part as specified.
- [vii] The tenderer shall upload the scanned copy of latest type test certificates (for the tests, carried out on the tendered equipment, being offered). Such type tests should have been conducted within last five years from the date of opening of this tender in a Government approved laboratory/CPRI in presence of any Government Organization's representative(s).
- [viii] The schedule of prices should be filled up fully to indicate the break-up of the prices including taxes and duties. Incomplete submission of this schedule will make the tender liable for rejection. Vide Clause-4(ii) of Part-II.
- [ix] The Tenderer should quote 'FIRM' price only and the price should be kept valid for a minimum period of 180 days from the date of opening of the tender.
- (x) Guaranteed Technical particulars & Abstract of terms and Conditions should be filled in completely.
- (xi) (a) Detailed information on any litigation or arbitration arising out of contract completed or under execution by it over the last five years. A consistent history of litigation by or against the bidder may result in rejection of bid.
- (xii) (b) The bidder should not have any pending litigation or arbitration with OPTCL with regard to any project or related activity. The bidder should certify / declare the same in the unequivocal terms by way of an affidavit duly sworn before a magistrate/notary. Bid furnished by the bidder shall not be eligible for consideration if it is not accompanied by the affidavit. Further the bid / LOA/ LOI shall be liable for outright rejection/ cancellation at any stage if any information contrary to the affidavit / declaration is detected.

**35. Documents to be treated as confidential.**

The supplier shall treat the details of the specification and other tender documents as private and confidential and these shall not be reproduced without written authorization from the Purchaser.

**36. Scheme/Projects**

The materials/equipment covered in this specification shall come under "R & M" works.

**SECTION – III.**

LIST OF ANNEXURES

**[I TO IX]**

**[PAGE 35 TO 45 ]**



**SECTION – III**  
**[LIST OF ANNEXURES]**

The following schedules and proforma are annexed to this specification and contained in Section-III as referred to in the relevant clauses.

1	Declaration form	ANNEXURE-I
2	Abstract of terms and conditions to accompany Section-II of	ANNEXURE-II
3	Schedule of Quantity and Delivery	ANNEXURE-III
4	Abstract of price component	ANNEXURE-IV
5	Schedule of prices	ANNEXURE-V
6	Composite Bank Guarantee form for security deposit, payment and performance	ANNEXURE-VI
7	Data on Experience	ANNEXURE – VII
8	Schedule of deviations ( Technical)	ANNEXURE-VIII (A)
9	Schedule of deviations (Commercial)	ANNEXURE-VIII (B)
10	Litigation /Arbitration	ANNEXURE-IX

**DECLARATION FORM**

**To**

The Sr. General Manager (S&S)  
OPTCL Head Qrs.BBSR,751022

Sub:- Tender Specification No-\_\_\_\_\_

Sir,

1. Having examined the above specification together with terms & conditions referred to therein \* I/We the undersigned hereby offer to supply the materials/equipment covered therein complete in all respects as per the specification and General conditions, at the rates, entered in the attached contract schedule of prices in the Tender.
2. \* I/We hereby undertake to have the materials/equipment delivered within the time specified in the Tender.
3. \* I/We hereby guarantee the technical particulars given in the Tender supported with necessary reports from concerned authorities.
4. \* I/We certify to have submitted the bid electronically by remitting \*cash/money order/D.D./ remitting the cost of tender, herewith and this has been acknowledged by your letter/ money receipt No. Dated,
5. In the event of Tender, being decided in \*my/our favour, \* I/We agree to furnish the Composite B.G. in the manner, acceptable to ORISSA POWER TRANSMISSION CORPORATION LTD., and for the sum as applicable to \*me/us as per clause-19 of section-II of this specification within 15 days of issue of letter of intent/purchase order failing which \*I/We clearly understand that the said letter of Intent/Purchase order will be liable to be withdrawn by the purchaser.

**Bid Security Declaration**

\*I/We further declare that, we will not modify/withdraw the bid after opening of techno-commercial bid(i.e. part-I bid) during its validity period and in such an event we agree that OPTCL would be free to debar us from participating in the tenders floated by OPTCL for a period of three years .

Signed this

day of

2021

Yours faithfully

Signature of the Tenderer with seal of the company

[This form should be dully filled up by the tenderer and uploaded at the time of submission of tender.]

\* (Strikeout whichever is not applicable).

**(Reverse Auction Process Compliance Form)**

**(Annexure-IA)**

(To be submitted on letter head of the bidding company with sign and stamp and along with Technical bid)

To,

SR.GM (S&S), OPTCL

Bhubaneswar-751010, Odisha

Sub: Agreement to the Process related Terms & Conditions for e-Reverse Auction.

Dear Sir,

This letter is to confirm that:

- The undersigned is authorized representative of the company.
- We have studied the Commercial Terms and the Business rules governing the Reverse Auction as mentioned in your tender and confirm our agreement to that.
- We also confirm that we have gone through the auction manual and have understood the functionality of the same thoroughly.
- We, hereby, confirm that we will honour the Bids placed by us during the tendering/ e- Reverse auction process as called as e-RA.
- We also confirm that we will accept our Rank / Position that will be displayed when the Bidding Time for the Online Reverse Auction is over.

With regards,  
Signature with Designation with company seal Name & Address

Person having power of attorney for the subject package.

**ANNEXURE-II**

**ABSTRACT OF GENERAL TERMS AND CONDITIONS OF CONTRACT**  
**[COMMERCIAL]**  
**(To be filled up by the tenderer as indicated in the excel sheet)**

**ANNEXURE-III**

**SCHEDULE OF QUANTITY AND DELIVERY**

(To be filled up by the tenderer)

SL No	Description of materials	Tender Quantity	Completion Period	Destination	Remarks.
1	2	3	4	5	6

Signature of Tenderer

with seal of Company

**ABSTRACT OF PRICE COMPONENT**

*(To be filled up by the tenderer as indicated in the excel sheet)*

**SCHEDULE OF PRICES**

*(To be filled up by the tenderer as indicated in the excel sheet)*

NB: -

1. **The tenderer should fill up the price schedule properly in Excel file in e-tender mode.** The tender will be rejected, if the price bid is not submitted in accordance with the price schedule. No post tender correspondence will be entertained on break-up of prices. Also, the supplier should agree for delivery at the desired site.
  
2. The Tenderer shall give an undertaking in part-I of the bid that, entire implication of lower Tax and Input Tax Credit benefit have been fully passed on to the purchaser as per anti-profiteering and other provisions under GST Laws while quoting the tender price.
  
3. Conditional offers will not be acceptable.

**ANNEXURE-VI**

**[PROFORMA FOR COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT PAYMENT AND PERFORMANCE]**

(To be stamped in accordance with Stamp Act and the Non-Judicial stamp paper of appropriate value should be in the name of the Issuing Bank.)

Ref No:- .....

Bank Guarantee No. ....

Date: .....

BG Amount:.....

Validity Period:.....

This Guarantee Bond is executed this..... day of ..... by us the..... Bank at ..... , P.O..... , Dist....., State..... and Code No.....

Whereas the ODISHA POWER TRANSMISSION CORPORATION Limited, Janpath, Bhubaneswar, a company constituted under the Companies Act-1956 (hereinafter called OPTCL) has issued Letter of Award (LOA) No..... Dated..... for the purpose of ..... work under Package No..... (herein after called "the Agreement") to M/s/Shri ..... , Address..... (herein after called the "Contractor") for "Supply of 11 KV SF6 5 way smart RMU for Tech Tower Building, OPTCL, BHUBANESWAR" under the above LoA and whereas OPTCL has agreed (1) to exempt demand of security deposit under the terms and conditions of the LOA (2) to release payment of the cost of the Contract Price to the Contractor on furnishing by the Contractor to OPTCL a Contract Performance Bank Guarantee (CPBG) of the value of 3% of the Contract Price of the said Agreement.

1. Now therefore, in accordance with the terms and conditions of LOA No. \_\_\_\_\_ dated \_\_\_\_\_ for the due fulfilment by the said Contractor of the terms and conditions contained in the said agreement, on production of a Bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only, we the bank \_\_\_\_\_ [Indicate bank Name , Address & Code ] (hereinafter referred to as "the Bank") at the request of M/s/Shri \_\_\_\_\_ contractor do hereby undertake to pay to OPTCL, an amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only .
2. We, the \_\_\_\_\_ Bank [indicate the name of the Bank, Address & Code] do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from OPTCL. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ (Rupees----- In Words).
3. We, the ..... Bank also undertake to pay to OPTCL any money so demanded notwithstanding any dispute or disputes raised by the Contractor in any suit or proceeding instituted / pending before any court or tribunal relating thereto, our liability under this present being absolute and irrevocable.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor shall have no claim against us for making such payment.

4. We, the \_\_\_\_\_ Bank further agree that the guarantee herein contained shall remain in full force and effect during the aforesaid period of \_\_\_\_\_ days and it shall continue to be so enforceable till all the dues of OPTCL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till OPTCL certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

Unless a demand or claim under this guarantee is made on us or our Branch Office at Bhubaneswar <Mention Name, Address & Code of the Branch Office at Bhubaneswar of issuing Bank> in writing on or before ..... (Date), we shall be discharged from all liability under this guarantee thereafter.

5. We, the \_\_\_\_\_ Bank [indicate the name of the Bank, Address & Code] further agree with the Board that OPTCL 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 Bid or to extend time or performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by OPTCL against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Bid and we shall not be relieved from our liability by reason of any such variation postponement or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of OPTCL or any indulgence by OPTCL to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of so relieving us.

6. This guarantee will not be discharged due to the change in the name, style or constitution of the Bank and/or of the contractor(s).

7. We, the \_\_\_\_\_ Bank [indicate the name of the bank, Address & Code ] lastly undertake not to revoke this guarantee during its currency except with the previous consent of OPTCL in writing.

8. We, the \_\_\_\_\_ Bank (Name, Address & Code) further agree that this guarantee shall also be evocable at our place of business at **Bhubaneswar** (indicate Name, Address & Code of the Branch at Bhubaneswar) in the State of Odisha.

**“ Not withstanding anything contained herein”**

a) Our liability under the bank guarantee shall not exceed Rs.------(Rupees in words-----) only.

b) This Bank guarantee shall be valid up to -----.

c) We or our Branch at **Bhubaneswar** <Mention Name, Address & Code.....> shall be liable to pay guaranteed amount or any part thereof under this guarantee only if you serve upon us at----- Branch of Bhubaneswar a written claim or demand on or before .....,

The Bank Guarantee is issued in paper form and Advice transmitted through SFMS with required details to the beneficiary’s advising bank (**ICICI Bank Bhubaneswar**, IFSC Code ICIC0000061).

Dated, the \_\_\_\_\_ Day of \_\_\_\_\_

For \_\_\_\_\_ [Indicate name of Bank]

Signature.....

Full Name.....

Designation.....

Power Of Attorney.....

Dated.....

Seal of the Bank.....

**WITNESS: (SIGNATURE WITH NAME AND ADDRESS)**

1. Signature.....

Full Name.....

2. Signature.....

Full Name.....

**N.B.:**

1. Name of the Contractor.: .....

2. BG No & Date :.....

3. Amount (In Rs.):.....

4. Validity up to :.....

5. LOA No.....

6. Package No.....

7. Name, Address & Code of Issuing Bank:.....

8. Name, Address & Code of Bhubaneswar Branch of the Issuing Bank:.....

1. The Bank Guarantee shall be accepted after getting SFMS advice as per details below.



## Format for SFMS details

**(The Unique Identifier for field 7037 is “OPTCL541405793”)**

Sl. No	PARTICULARS	TYPE	DETAILS
1	Type of Bank Guarantee	Mandatory	Contract Performance
2	Currency & Amount	Mandatory	
3	Validity Period(from—to --)	Mandatory	
4	Effective Date	Mandatory	
5	End date of lodGM(S&S)ent of Claim	Mandatory	
6	Place of lodGM(S&S)ent of claim	Mandatory	Bhubaneswar, Branch Name----- of Bhubaneswar Branch code----- of Bhubaneswar Branch Address ----- at Bhubaneswar
7	Issuing Branch IFSC Code	Mandatory	
8	Issuing Branch name & address	Mandatory	
9	Name of applicant and its details	Mandatory	
10	Name of Beneficiary and its details	Mandatory	
11	Beneficiary's Bank/Branch and IFSC Code	Mandatory	ICICI Bank Ltd IFSC Code-ICIC0000061
12	Beneficiary's Bank/Branch name and address	Mandatory	ICICI Bank Ltd Bhubaneswar Main Branch, Bhubaneswar
13	Sender to receiver information	Mandatory	
14	Purpose of Guarantee	Mandatory	Contract Performance
15	Reference/Description of the underlined tender/contract	Mandatory	LOA No----

**ANNEXURE-VII**

DATA ON EXPERIENCE

- [a] Name of the manufacturer.
- [b] Standing of the firm as manufacturer of equipment quoted.
- [c] Description of equipment similar to that quoted [supplied and installed during the last two years with the name of the organizations to whom supply was made].
- [d] Details as to where installed etc.
- [e] Testing facilities at manufacturer's works.
- [f] If the manufacturer is having collaboration with another firm, details regarding the same and present status.
- [g] A list of purchase orders, executed during last three years.
- [h] A list of similar equipments of specified MVA rating, voltage class, Impulse level, short circuit rating, Designed, manufactured, tested and commissioned which are in successful operation for at least two years from the date of commissioning with legible user's certificate. User's full complete postal address/fax/phone must be indicated. (Refer clause No.7 of the Section-II of the specification).

Place:

Date:

Signature of tenderer

Name, Designation, Seal

**ANNEXURE-VIII**

**DEVIATION SCHEDULE.**

**Tenderer shall enter below particulars of his alternative proposal for deviation from the specification, if any.**

**A) Technical deviations.**

**(To be filled up by the tenderer as indicated in the excel sheet)**

Place: -

Date

Signature of Tenderer:

Name, Designation, Seal

**B) Commercial deviations.**

**(To be filled up by the tenderer as indicated in the excel sheet)**

Place: -

Date

Signature of Tenderer:

Name, Designation, Seal

**ANNEXURE - IX**

**LITIGATION HISTORY**

Name of the Bidder:

Bidder should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution.

Year.	Award for or against bidder	Name of client, cause of litigation and matter in dispute	Disputed amount (current value in Rs.)

Place: -

Date

Signature of Tenderer:  
Name, Designation, Seal

**PART – II**  
**PRICE BID**

**1. PRICE:**

- (i) Bidders are required to quote their price(s) for goods offered indicating they are 'FIRM'
- (ii) The prices quoted shall be FOR Destination only at the consignee's site/store inclusive of packing, forwarding, Freight & Insurance. In addition, the break-up of FOR Destination price shall be given as per schedule of Prices in Annexure-V of Section – III. The Bidders has to certify in the price bid that any implication of lower Tax and Input Tax Credit benefit as per anti-profiteering and other provisions under GST Laws, have been fully passed on to the Purchaser, while quoting the tender prices.

**2. INSURANCE:**

Insurance of materials/equipments, covered by the Specification should normally be done by the Suppliers with their own Insurance Company unless otherwise stated. The responsibility of delivery of the materials/equipments at destination stores/site in good condition rests with the Supplier. Any claim with the Insurance Company or Transport agency arising due to loss or damage in transit has to be settled by the Supplier. The Supplier shall undertake free replacement of equipments/materials damaged or lost which will be reported by the Consignee within 30 days of receipt of the equipments/materials at Destination without awaiting for the settlement of their claims with the carriers and underwriters.

**3. CERTIFICATE FOR EXEMPTION FROM GOODS AND SERVICES TAX:**

Offers with exemption from Goods and Services Tax shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean Photostat copy of exemption certificates, attested by Gazetted Officers of State or Central Government.

**4. PROPER FILLING UP OF THE PRICE SCHEDULE:**

The Bidders should fill up the price schedule (Annexure-V of Section-III) properly and in full. The tender may be rejected if the schedule of price is submitted in incomplete form as per clause-34 (ix) of Section-II of the Specification.

**5. NATURE OF PRICE INDICATED IN SPECIFICATION SHALL BE FINAL.**

The nature of price indicated in the Clause-13, Section – I of PART –I of the Specification shall be final and binding.

**TECHNICAL SPECIFICATIONS FOR SUPPLY OF 01 NO. 11 KV SF6 OUTDOOR TYPE  
SMART RMU**

**TECHNICAL SPECIFICATIONS**

**1.0 GENERAL**

- 1.1 These specifications apply to factory-built, RMU type, metal-enclosed outdoor switchgears.
- 1.2 The equipment to be supplied shall come in the form of a compact switchboard with **SCADA compatibility** and shall meet the following requirements:-
  - a) Easy to install
  - b) Safe and easy to operate
  - c) Compact
  - d) Low maintenance
- 1.3 All equipment and material shall be designed manufactured and tested in accordance with the latest applicable IEC standard.
- 1.4 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.
- 1.5 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. The Electricity Act, 2003 shall also apply. 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.
- 1.6 The high-tension switchgear offered shall in general comply with the latest issues including amendments of the following standards but not restricted to them.
- 1.7 The contractor shall submit to OPTCL, the technical particulars obtained from the approved vendor from whom the same is being procured and obtain approval before purchasing the same. The technical particulars shall not be inferior to the values furnished in the GTP. All the required tests on the RMUs shall be conducted in presence of OPTCL's representatives.

## 2.0 STANDARDS

Sl No	Standards	Description
1	IS 12063:	Classification of degrees of protection provided by enclosures of electrical equipment.
2	IEC 60694 & IS 3427	specifications for AC metal enclosed switchgear & control gear for rated voltages above 1 kV and up to and including 52 kV
3	IEC 62271-100 & IS 13118	High Voltage AC Circuit Breakers
4	IEC 60265 & IS:9920 (Parts 1 to 4)	High Voltage AC Switches
5	IEC 62271-200 & 202	Metal Enclosed Switchgear & Control Gear
6	IEC 62271-102 & IS 9921 (Parts 1 to 5):	HV AC Disconnectors & Earthing Switches
7	I.S.- 10118:Parts I to IV	Erection of RMU, testing and commissioning

## 3.0 CLIMATIC / SERVICE CONDITIONS

3.1 The Ring Main unit shall be suitable for operations at a height of 1000 meters above sea level, IEC 60120.

3.2 The RMU shall be capable of operating normally within the following temperature ranges:

Maximum air temperature: +40 deg C (without current deration)

Maximum value for 24 Hr mean: +35 deg C

Minimum air temperature: - 10 deg C

The Ring Main Unit shall be capable of being exposed to high relative humidity (max 95%) and ambient air pollution.

The Ring Main Unit shall be capable of being operated in electrically exposed locations.

## 4 IMPORTANT FEATURES

- a) Motorized isolators and motorized circuit breakers.
- b) Common Bus bar for entire unit.
- c) Battery and battery charger with output voltage 24 V DC, 20 Ah for motors.
- d) Auxiliary transformer rated for 11 kV/ 230 V, 1kVA for supplying power to motors circuit through battery charger.
- e) Suitable no of Auxiliary contact for breaker, isolators and earth switches.

- f) Multifunctional Meter (MFM) on each panel both on Circuit breakers and Load break switches must be provided for V,I,PF, KVA, KVAR KW, KWH etc with communication port.
- g) Current transformer on the breaker and isolators shall be rated 400-200/1-1-1A, 2.5VA, class 0.5S and 400-200/1-1A, 2.5VA, 5P20 class.
- h) Bus connected PTs rated for 11 kV/110 V, 30 VA, 0.5S class for measurement
- i) Self powered electronic relay that will operate without any auxiliary power supply under fault conditions for over current and earth fault protection of 1000 kVA Distribution Transformer.
- j) Capacitive voltage indication fixed type.
- k) Fault passage indicator for each isolator.
- l) Operation counters for CB and LBS.
- m) Internal arc tested for IAC AFLR 21KA for 1Sec. for main tank and cable chamber
- n) RMU, Vacuum Interrupter & FPI should be of same make for better performance

#### **4.1. OTHER FEATURES :**

**4.1.1.** The circuit breaker for distribution transformer shall be also suitable for manual closing and opening in case of exigencies.

**4.1.2.** The operating mechanism shall be direct hand operated trip free with a mechanically operated indicator, positively coupled to the operating mechanism to indicate whether the breaker is in the closed or in the open position.

**4.1.3.** Off load isolator shall have three positions i.e. ON, OFF & EARTH.

**4.1.4.** Voltage Indication: There should be arrangement to check whether the cable connecting to the isolator is live or not.

**4.1.5.** There should be fault passage indicator for incoming and outgoing isolators. In case of fault current passing through that isolator, the flag must indicate that the fault current has passed through it. There shall be provision of resetting the indication by providing a timer having adjustable time setting 1 to 4 hrs.

**4.1.6.** The indications for ON/OFF/EARTH of the Breaker Switches should be visible from outside even with the enclosure.

#### **5 LOAD BREAK SWITCH**

- a) The Compact 11 KV SF6 5 way smart RMU shall be a combination of two load break switches 630 Amp & Three numbers of Circuit Breakers (vacuum) 630 Amp.
- b) Three numbers of Circuit Breakers (vacuum) type, as per details above, with Earth Switches, and motor operated.

#### **6 GENERAL TECHNICAL DATA**

The equipment shall have the following characteristics, and should be manufactured, assembled and tested in accordance with the following listed standards.



6.1 The vacuum gas Circuit Breakers with Earth Switches, used in the Compact RMU shall be of SF6 gas filled type meeting the following general technical criteria:-

<b>General Technical data</b>		
<b>Sl.No.</b>	<b>PARTICULARS</b>	<b>Details</b>
1	System Net work	Three Phase -Three Wire
2	Rated Voltage	11 kV
3	Highest system Voltage	12 kV
4	System Frequency	50 Hz
5	Lightning Impulse Withstand Voltage	
i	Phase - to - Phase & Phase - to - Earth:	75 kVp
ii	Across the Isolating distance:	85 kVp Not applicable
6	Power Frequency Withstand Voltage:	
i	To earth, between poles and across opening switch device	28 kV RMS for 1minute
ii	across isolating device	32 kV RMS for 1 minute. Not applicable
7	Rated Short Time Withstand/Breaking Current:	25 kA RMS
8	Rated duration of Short Circuit:	1 seconds
9	Rated Normal Current:	630 Amps
10	Rated Load Interrupting Current:	630 Amps
11	Rated Cable Charging Interrupting Current:	25 A
12	Rated Short circuit making capacity of line switches and earthing switches	52.5 kA peak at Rated Voltage
13	Number of operations on line switches, earthing switches and CB	Isolator-M1(1000 operation)
14	Number of mechanical operations	
i	Earthing switches and Ring Main switches	M0(1000 operations)
ii	Circuit breaker	M1 (2000 operations), E1 (1000 operations at full load) and 50 full short circuit operations

- 6.2 All the switchgear shall be capable of withstanding the specified current without any damage being caused, in accordance with the latest versions of IEC 60694 and IS: 3427.
- 6.3 Body: The 11 KV SF6 5 way smart RMU should be compact Modular in construction and suitable for outdoor application without any further covers or enclosure. The RMU shall be tested for weather proofing tests as per IS & IEC standards.
- 6.4 The RMU's are exposed to sun and rain and subject to dust and Pollution from the heavy vehicular Traffic.

**7 CIRCUIT BREAKER SPECIFIC CHARACTERISTICS**

<b>Circuit Breaker Specific Characteristics</b>		
<b>SI No</b>	<b>Particulars</b>	<b>Details</b>
1	Technology	Vacuum, rotating arc
2	Rated Normal Current	630A
3	Rated Operating Sequence	O-3min -CO-3min-CO
4	Mechanism type	manual close, manual opening
		manual close, manual & electrical remote opening
		motor close, manual & electrical remote opening
5	Rated tripping voltages	24 V DC
6	Total break time	< 60 mS
7	Closing time	< 100 mS
8	Maximum operating force	< 400N @ 1250 mm height
9	Motor operating voltages	24V DC

**8 DESIGN**

8.1 The compact **11 KV SF6 5 way smart RMU** shall be designed to operate at the rated voltage of 12kV. It shall be combination of **two load break switches** (630 Amp) & **Three numbers** of Circuit Breakers (Vacuum CB, 630 Amp). It shall also include, within the same metal enclosure, earth switches for each Circuit Breaker for earthing each of the devices. Suitable fool-proof interlocks shall be provided to these earth switches to prevent its in advertent or accidental closing when the circuit is live and the concerned Circuit Breaker

is in closed position. In case of gas filled units, the switchgear and bus bars shall be contained in stainless steel/enclosures filled with gas at pressure as per type tested design of the manufacture, but shall not be less than 0.1 Mpaat any instant to ensure adequate insulation and safe operation. The assembly should not require further gas processing during its expected life of operation of 30 years as per Clause 2.3 and 3.3 of IS 3427. Sealed for life, the enclosure shall meet the "sealed pressure system" criterion in accordance with the IEC 62271-200 standard. The degree of protection required against environment shall be not less than IPX4 of IS 12063. The compact RMU shall have at least an IP 54 for outdoor units and main tank shall have IP67 Protection Index as per IS 12063 against dust and splashing of water. The active parts of the switchgear shall be maintenance free and the Compact RMU shall be totally maintenance free.

8.2 The tank shall be made of suitable or stainless steel adequate thickness and shall be able to withstand any accidental internal over pressure which is as per IEC and type tested design.

8.3 The Compact RMU shall be suitable for mounting on its connecting cable trench. A suitably sized nameplate clearly indicating its functional units and their electrical characteristics shall identify each unit. The positions of the different devices shall be clearly visible to the operator on the front of the compact RMU and the operations shall be clearly visible.

8.4 The MV system will be sealed in SF6 filled housing. There shall be no access to exposed MV (11kV) conductors.

8.5 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.

8.6 The design shall incorporate such features to prevent any accidental operating of the earth switch when it is in closed position. Similarly accidental closing of Circuit Breaker shall be prevented when the same is in open position from the release of any latch or spring in tension due to vibrations caused externally or internally and shall prevent accidents.

8.7 The vacuum Circuit Breakers shall be maintenance free. The position of power contacts and earth contacts shall be clearly visible on the front of the Compact RMU. The position indicator shall provide positive contact indication in accordance with IS 9920. In addition, the manufacturer shall prove the reliability of indication in accordance with IS 9921. These breakers shall have three positions, viz., Open, Closed and Earthed and shall be constructed in such a way that natural interlocking prevents unauthorized operations. The breakers shall be fully assembled in the

factory. The breakers are to be designed to be operated remotely by SCADA operation. However, Manual opening and closing whenever necessary shall be driven by a fast acting mechanism, independent of operator's action.

- 8.8 Facility for remote operation shall be provided with an electrical operating mechanism in a remote location, without any modification of the operating mechanism and without de-energizing the Compact RMU. The earth switch mechanism shall have a mechanical endurance of a minimum of 5000 operations.

An operating mechanism can be used to manually close the Circuit Breaker and charge the mechanism in a single movement in case of any exigency. It shall be fitted with a local system for manual tripping. There should be no automatic reclosing. The Circuit Breaker shall be capable of closing fully and latching against the rated making current. Mechanical indication of the "OPEN" and "CLOSED" position of the Circuit Breaker shall be provided. The breaker of the same type and rating (not mandatory) shall be interchangeable. The operating mechanism shall be direct hand operated trip free with a mechanically operated indicator, positively coupled to the operating mechanism to indicate whether the breaker is in the closed or in the open position.

- 8.9 The spring operated Circuit Breaker closing mechanism to be operated manually in case of exigencies it should not be possible for the Circuit Breaker to close until the spring is fully charged and the associated charging mechanism is fully ready for closing. Wherever external spring charging handle is required to charge the spring, it should be ensured that the same is not allowed to move during the spring charging. It should be ensured that the same is not allowed to move during the release of its spring energy. Alternately, it should not be possible to release the spring energy till the charging handle is completely disengaged from the mechanism. A visual mechanical indicating device shall be provided to indicate the status of spring viz., "SPRING CHARGED" or "SPRING FREE". It shall be possible to charge the spring when the Circuit Breaker is closed and if the spring is released the Circuit Breaker should not open; nor this operation result in any mechanical damage to the component of the Circuit Breaker or its operating mechanism. Alternatively, fast acting reflex mechanism for Circuit Breaker is also acceptable. However, the circuit Breakers shall be designed for remote operation.

- 9 ISOLATING DEVICE (OD) to be provided for terminating main incomer and outgoing cables along with Fault Passage Indicators.

- a) The isolator shall have three positions i.e. ON, OFF & EARTH.
- b) Voltage Indication: There should be arrangement to check whether the cable connecting to the isolator is live or not.

- c) There should be fault passage indicator for incoming and outgoing isolators. In case of fault current passing through that isolator, the flag must indicate that the fault current has passed through it. There shall be provision of resetting the indication by providing a timer having adjustable time setting 1 to 4 hrs.
- d) The indications for ON/OFF/EARTH of the Switches should be visible from outside even with the enclosure.

## 10 PROTECTION SYSTEM

- a) The Circuit Breaker shall be provided with suitable protection system that will operate under fault conditions.
- b) The protection system shall comprise of three numbers of 400-200/1-1-1A Current Transformers with 5P10 core, PS core and the other with metering core of 0.5s accuracy class and 2.5VA.
- c) Self powered electronic relay that will operate without any auxiliary power supply under fault conditions for over current and earth fault protection of 1000 kVA Distribution Transformer.
- d) The relay shall be self powered to operate and trip the Circuit Breaker. The relay shall be provided with a testing port in front of the relay.
- e) The range of relay settings from a range of 8 Amperes to 200 Amperes corresponding to the rating of underground cable network shall be available in the protection system. OC & EF relays shall have 'Inrush bypass facility' to avoid nuisance tripping due to transformer inrush current.
- f) The EF relays shall have current settings 10% to 40% in steps of 5%. The relays shall at least support 3 sec, 1.3 sec & extremely inverse curves along with adequate high-set facility. Self-powered Electronic/Numerical relays shall be used.
- g) The Load Break Switches in RMUs shall be fitted with Fault Passage Indicator (FPI) suitable for current measuring devices for each phase, with maxi meter for the fault current passed through it.

## 11 REMOTE CONTROL OF SWITCHGEAR

- a) Remote operation of switches must be possible using motors fitted to the operating mechanism.
- b) It shall be possible to fit the motors either directly in manufacturing plant or on site.
- c) The fitting of the motors to the mechanism must not in any way impede or interfere with the manual operation of the switches or circuit breaker.

## 12 OVERVIEW OF THE MONITORING AND CONTROL ENCLOSURE

The switchgear remote control interface will include all the functions required to monitor and control MV cubicles to be remote controlled. This

unit will consist of a galvanized steel or stainless steel enclosure fitted with a padlocking system. Its safety rating will be IP5X.

### 13 FUNCTIONS OF THE MONITORING AND CONTROL ENCLOSURE

- a) The monitoring and control enclosure shall meet the following main requirements.
  - i) Load current measurement on the line fitted with a fault detector.
  - ii) Data transmission to the remote control centre.
  - iii) Chronological time-stamped event recording.
  - iv) Energy supply and storage with 9-hour autonomy in the event of mains failure for
    - 1) 24 V DC motor drives
    - 2) Transmission equipment
    - 3) Control unit
- b) It shall be possible to view the most important information locally on the front panel of the enclosure and remotely from the control centers. It shall be possible to retrieve and display on a laptop PC the time-stamped events recorded at the enclosure. It shall also be possible to retrieve this information from the remote control centre. The minimum storage capacity shall be 100 events. The control enclosure shall be able to be used to operate the cubicles in remote or local control mode.
- c) In remote control mode, the enclosure will ensure:-
  - i) Transmission of remote measurements and time-stamped events.
  - ii) Possibility of electrical remote control.
  - iii) Inhibition of local electrical control pushbuttons.
- d) In local mode, the enclosure will ensure:-
  - i) Transmission of remote measurements and time-stamped events.
  - ii) Possibility of local electrical control of opening and closing operations by simultaneously pressing a pushbutton to select the unit to be operated and a validation push button.
  - iii) Inhibition of opening/closing remote control.

#### **4.3 CONTROL OPERATION:**

- a) Breaker ON-OFF, Earth, 230VAC space heater, (thermostat Controlled) with heater ON/OFF indication & 'SF6 gas pressure low' indication etc. shall be provided.
- b) Handle operated 'spring charged' mechanical operation shall be provided.
- c) Local Control of the Breaker shall be possible.
- d) Local operation selector Switch shall be provided.

**NB:- The Energy meters to be used on the Out going of 3 nos. of breakers of 5-way RMU will be used for Tariff towards energy consumption separate compatible cubicle for Energy meters & TTB has to be provided. The cubicle should be tamperproof along with provision for sealing by TPCODL.**

#### **4 DIELECTRIC MEDIUM**

- a) SF6 gas shall be used for the dielectric medium for all MV panels. SF6 gas used for the filling of the RMU shall be in accordance with IEC 376.
- b) It is preferable to fit an absorption material in the tank to absorb the moisture from the SF6 gas and Vacuum technology as arc interruption.
- c) The SF6 insulating medium shall be constantly monitored via a gas pressure monitor cum- indicator offering a simple go, no-go indication & gas pressure lock out provision.

#### **5 EARTH**

- a) There shall be continuity between metallic parts of the Compact RMUs and cable so that there is no dangerous electric field in the surrounding air and safety of the personnel is ensured. The frames should be connected to the main earth bars. The cables should be earthed by the Earth Switch having the specified short circuit making capacity in compliance with IEC 62271-102 standard. The Earth Switch shall be operable only when the main switch is open and suitable mechanical fail proof interlock shall be provided for the same.
- b) The earth Switch shall be provided with a reliable earth terminal for connection to an earth conductor having a clamping screw, suitable for the specified earth fault conditions. The diameter of the clamping screw shall be at least 12 mm. The connections point shall be marked with the earth symbol. The flexible connections between the earth blade and the frame shall have a cross section of at least 50 sq mm copper or equivalent aluminum.
- c) SF6 insulated Switches shall be fitted with correct sequence device having "ON" "TEST" "EARTH" shall have provision for padlocking.

#### **6 CABLE TERMINATION**

14.1 The bushing should be conveniently located for working with cables specified and allow for the termination of these cables in accordance with the prevailing practice and guidelines of cable manufacturers. The dimensions of the terminals shall be in accordance with IS 10601. A non Ferro-magnetic cable clamp arrangement shall be provided for each cable to be terminated in the Compact RMU. Suitable locking arrangement of the Circuit Breakers, Earth Switches and vacuum Circuit Breakers with padlocks in the "Open" or "Closed" position shall be provided.

14.2 A "Cable Alive" indicator lamp in the front of Compact RMU shall be provided for each cable using a capacitance voltage divider.

- 14.3 It must be possible to test the core or sheath insulation of the cables without de-energizing the remaining section of the Compact RMU without accessing the cable compartment and without disconnecting the cable.
- 14.4 All cable boxes shall be air insulated suitable for dry type cable terminations. Compound filled cable boxes are not acceptable.
- 14.5 The cable boxes shall be suitable for accepting H.V. cables approaching from either above or below. Front cable entry for the RMU for better access to the components like CTs, cable boots etc. The front cable entry RMU can be placed adjacent to the wall is the advantage of the front cable entry RMU. Also in case of the side cable entry the breaker cable box access is from rear side which needs huge clearance in rear side for access of cables CTs and cables.

## **7 SAFETY OF EQUIPMENTS**

- 15.1 Any accidental over pressure inside the SF6 gas sealed chamber shall be limited by the opening of a pressure-limiting device in the rear part of the enclosure so that the gas will be released away from the operator.
- 15.2 All manual operations shall be carried out on the front of the RMU. The effort required to be exerted on the lever by the operator shall not exceed 250 N.
- 15.3 Any accidental over pressure inside the sealed chamber will be limited by the opening of a pressure limiting device in the enclosure. Gas will be released to the rear of the unit away from the operator. Manufacturer shall provide type test report to prove compliance with IEC 298 appendix AA 'Internal fault'.

## **8 FRONT PLATE**

The front plate shall be provided with IP2X degree of protection conforming to IS 12063. The front plate should include a clear mimic diagram indicating the functions. The position indicators shall correctly depict the position of the main contacts and shall be clearly visible to the operator. The lever operating direction shall be clearly indicated.

## **9 FAULT PASSAGE INDICATOR**

The bidder should quote for fault locators, for Load Break Switches for 400 sq.mm incoming and outgoing cables, as per the following requirements:-

- a) The fault locator shall be an electronic device with its own energy source and connected to the Current Transformers and shall be provided with bright LED's clearly visible in day light. These shall have the facility for Manual reset, resetting after a time interval and resetting on restoration. They shall be fully programmable and shall have at least 16 settings for earth fault and



fault settings for phase to phase faults. It should be possible to test these indicators at site through "Test" push button.

- b) The fault detection characteristics will be as follows:
  - i. Phase-to-phase fault detection: between 100 and 750A in increments of 50 A.
  - ii. Homopolar fault detection: between 20 and 160A in increments of 5 A.
  - iii. Fault processing time between least 40 ms to 100 ms in 20 ms steps and further 100 ms to 300 ms in 50 ms steps.
  
- c) A detected fault can be cleared:-
  - i) When the voltage is restored: configured channel by channel.
  - ii) After a timeout: configured channel by channel from 15 min to 120 min.
  - iii) By pressing a pushbutton on the local control panel.
  - iv) By remote control from the control centre.
  - v) Externally (dry loop).
  
- d) The currents will be measured using self an opening and -blocking current sensor with an internal diameter of less than 47 mm.
  
- e) The load current associated with fault detection on the line will be displayed locally and transmitted to the remote control centre.

## **10 AUXILLARY SUPPLY TO PROTECTION CIRCUITS**

- a) Power from the energy workshop will be sufficient to supply 24V to at least all the switch cubicles, electronics in the enclosure. It will be possible to configure the 24V DC motor drive supply voltage (on site).
  
- b) The 12V transmission output will be able to supply a conventional radio without a battery ( $I_{trans} = 8 \text{ A}$ ) or through Fiber optic cable to inform the remote control centre of a battery failure.
  
- c) The standby energy shall be provided by a 12V, 24 Ah battery with a minimum autonomy of at least 9 hours for 10 opening and closing cycle.
  
- d) The batteries shall be checked at regular intervals by the slave station and an alarm will be generated and transmitted to the remote control centre in the event of a fault.
  
- e) The relays used inside RMU are self-powered relay and does not require auxiliary power to operate.

## **11 NAME PLATE**

Each RMU and its associated equipment 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) Rated lightning impulse withstand voltage
- k) D.C. component of current
- l) Feeder name (Incoming and Outgoing), DTs Structure name, 11000Volts Dangers etc.

NOTE: i) The word rated need not appear on the name plate. Recognized abbreviations may be used to express the above particulars.  
 ii) Whether the circuit breaker is fitted with closing/tripping devices necessitating an auxiliary supply shall be stated either on the circuit breaker name plate or any other acceptable position.

## **12 TESTS**

- a) Type test reports for all the type tests required to be conducted as per the standards mentioned in these specifications should have been done not later than 5 years on the day of bid opening.
- b) Acceptance tests shall be conducted in accordance with these standards in presence of the owner's representatives.

## **13 INSTRUCTION MANUALS**

Six copies of installation, operation and maintenance manuals shall be supplied along with the equipment. Two additional copies of these manuals shall be supplied at the time of commencement of works before the materials are supplied. These manuals shall be complete in all respects furnishing the constructional and operational features of the equipment. The same shall contain all the details and required drawings and/or illustrations along with the overall procedures to enable to identify all the parts and consumable spares, which may have to be identified readily for ordering, purpose.

#### **14 DRAWINGS**

The contractor/supplier shall submit complete sets of drawings and diagrams for approval before proceeding with manufacture.

#### **15 ACCESSORIES**

The following accessories shall be provided for each compact RMU

- a) Pad locks for all doors with one set (3 Nos.) Master keys
- b) Earth bus formed out of 50 x 6 mm GI earth flats
- c) Base channel with foundation bolts
- d) Live part shrouds, danger plates, caution boards, name plates, rating plates etc., as per requirements.
- e) All other components, even though not specifically mentioned, but required for the safe operation of the unit.