Section IV L - Price Bid for local supplies

CENTRAL POWER RESEARCH INSTITUTE, BHOPAL Web: www.cpri.in, www.tenderwizard.com/CPRI

Tender Enquiry No : STDS/12-01/2022-23/PUR/RTL-NK-29/

Description of the Equipment/Goods/Services : Supply, Installation, Commissioning and Testing of 100kA & 10kA High Current Measuring Shunts.

Name and address of the Bidder *	
Quotation Number and Date*	
HSN code (Harmonized system nomenclature) *	
GSTIN No *	
SAC code (Services Accounting Code) *	
Income Tax permanent account number(PAN)*	
Details of EMD submitted*	

Sl.No	Particulars	Qty	Unit Rate in Rupees	Total Amount in Rupees
1	**Basic Price (6 nos. 100kA and 3 nos. 10kA) (Including mandatory spares, packing and forwarding charges) (The list of mandatory spares shall be provided in the technical bid without mentioning the price) Insurance is under Supplier's Scope**	1		0.00
1(a)	*GST rate as applicable in percentage only*			
	IGST			0.00
	CGST			0.00
	SGST			0.00
	UTGST			0.00
	CESS if any			0.00
2	**Transportation Charges (To be Quoted in Lumpsum ,if applicable)**			0.00
2(a)	*GST rate as applicable in percentage only*			
	CGST			0.00
	IGST			0.00
	SGST			0.00
	UTGST			0.00
	CESS if any			0.00
3	**Installation and Commissioning Charges (To be Quoted in Lumpsum ,if applicable)**			0.00
3(a)	*GST rate as applicable in percentage only*			
	CGST			0.00
	IGST			0.00
	SGST			0.00
	UTGST			0.00
	CESS if any			0.00
	TOTAL LANDED COST			0.00
	Total Landed Cost in Words			

4	**OPTION-1 :** **Post warrenty comprehensive AMC including, Labour, Travel, Spare Parts etc. in INR (lumpsum)** (This cost is optional hence will not to be considered for cost comparission evaluations.)			
5	**OPTION-2 :** **Optional accessories in INR (lumpsum)** **List of items with breakup price to be furnished in case CPRI demands for the same.**			
6	**Guarantee/Warrantee period**			
7	**After sales and service facility (location of the facility and address to be furnished)**			
8	**Delivery period**			
9	**Validity of the offer**			
10	**Payment terms** **(as per CPRI payment terms)**			
11	**Details of enlistment if any under Department of expenditutre , Minsitry Of Finance , GOI.**			
12	**Name and address of the customer, if any to whome a similar equipment/items has been supplied with their purchase order number and date (as per the APPENDIX I).**			
13	**Whether a similar equipment could be demonstrated to our representative in case required.**			
15	**Acceptance for submission of security deposit in the event of placement of order.**			

PN:
1) The price bid shall be submitted in this format only.
2) All blue fields are madatorily to be filled in.
3) As a policy of CPRI High Sea Sales bids are not acceptable and shall be rejeced.
4) CPRI reserves the right to conduct "predispatch inspection" prior to dispatch at the works of the supplier and the expenditure towards PDI shall be borne by CPRI. However information regarding the rediness of the equipment/machinary for the PDI shall be communicated in writing at lease 70 days in advance.
5)UNDER TAKING: THE OFFER MADE IS IN STRICT COMPLAINCE WITH THE QUALITY AND OTHER TECHNICAL REQUIREMENT MENTIONED IN SECTION - IV T.

Section IV NL - Price Bid format for Non - Local supplies (Import) Offer

CENTRAL POWER RESEARCH INSTITUTE, BHOPAL Web: www.cpri.in, www.tenderwizard.com/CPRI

Tender Enquiry No : STDS/12-01/2022-23/PUR/RTL-NK-29/

Description of the Equipment/Goods/Services : Supply, Installation, Commissioning and Testing of 100kA & 10kA High Current Measuring Shunts.

Name and address of the Bidder	
Quotation Number and Date	
HSN code (Harmonized system nomenclature)	
GSTIN No (if applicable)	
SAC code (Services Accounting Code)	
Income Tax permanent account number(PAN)	
Details of EMD submitted	

Sl.no	Partuculars	Qty	Unit Rate in Figures	Currency Type	Amount
1	**FOB value of the complete system (6 nos. 100kA and 3 nos. 10kA) (Including mandatory spares, packing and forwarding charges) (The list of mandatory spares shall be provided in the technical bid without mentioning the price)**	1			0.00
2	**Insurance charges upto CPRI(ware house to ware house basis in Lumpsum)**				0.00
3	**Freight Charges,As applicable(Lumpsum)**				
	3a) Air Freight Charges.(Lumpsum)				0.00
	3b) Sea Freight Charges.(Lumpsum)				0.00
4	**Total CIP/CIF cost**				0.00
	Total CIP/CIF cost in words				
5	**Installation and commission charges in INR (Lumpsum)**				0.00
5(a)	*GST as applicable (GST rate in percentage only)*				
	IGST				0.00
	CGST				0.00
	SGST				0.00
	UTGST				0.00
	CESS if any				0.00
	TOTAL COST				0.00
	Total Cost in Words				

PROCUREMENT PROCEDURE OF CPRI (NON WORKS)

Revision No. : 05 **Issue No** : 2
Dt of Revision : 27.08.2020 **Issue Dt.** : 30.06.2003
Page No. : 2 of 2 **Issued by** : Q A
Section : Formats **Documents** : PPM
Topic : : Price bid format for Non - Local supplies (Import) offers **FORMAT NO.:CPRI/PUR/ePBID/IMP**

Section IV NL - Price Bid format for Non - Local supplies (Import) Offer

CENTRAL POWER RESEARCH INSTITUTE, BENGALURU/BHOPAL Web: www.cpri.in, www.tenderwizard.com/CPRI

Sl.no	Partuculars	Qty	Unit Rate in Figures	Currency Type	Amount

6	**OPTION-1 :** **Post warrenty comprehensive AMC including, Labour, Travel, Spare Parts etc. in INR (lumpsum)** (This cost is optional hence will not to be considered for cost comparission evaluations.)				
7	**OPTION-2 :** **Optional accessories in INR (lumpsum)** **List of items with breakup price to be furnished in case CPRI demands for the same.** (This cost is optional hence will not to be considered for cost comparission evaluations.)				
2	**Guarantee/Warrantee period**				
3	**After sales and service facility (location of the facility and address to be furnished)**				
4	**Delivery period**				
5	**Validity of the offer**				
6	**Payment terms** **(as per CPRI payment terms)**				
9	**Name and address of the customer, if any to whome a similar equipment/items has been supplied with their purchase order number and date (as per the APPENDIX I).**				
10	**Whether a similar equipment be demonstrated to our representative in case required.**				
12	**Acceptance for submission of security deposit in the event of placement of order.**				
NOTE : CPRI IS EXEMPTED FROM PAYMENT OF CUSTOMS DUTY UNDER NOTIFICATION NO.51/96 DATED 23-071996 AND AMENDED NOTIFICATION NO.24/2007-CUSTOMS DATED 1-3-2007(HOWEVER CONCESSIONAL CUSTOMS DUTY AND ADDITIONAL CUSTOMS DUTY AS APPLICABLE WIIL BE CONSIDERED.					
UNDER TAKING: THE OFFER MADE IS IN STRICT COMPLAINCE WITH THE QUALITY AND OTHER TECHNICAL REQUIREMENT MENTIONED IN SECTION IV T					

Section IV T -Technical Specification

CENTRAL POWER RESEARCH INSTITUTE, BENGALURU/BHOPAL Web: www.cpri.in, www.tenderwizard.com/CPRI

Tender Enquiry No : STDS/12-01/2022-23/PUR/RTL-NK-29

Description of the Equipment/Goods/Services : Supply, Installation, Commissioning and Testing of 100kA & 10kA High Current Measuring Shunts.

Note : 1) The technical bid submitted in other than this format is liable to be rejected.

2) All blue fields are mandatorily to be filled in.

Name and address of the bidder	
Quotation Number and Date	

Sl.No.	Technical Specifications/Parameters		Quantity	To be completed by the Bidder		
	Particulars	CPRI Specification/Requirements		Detials of guaranteed technical parameters offered by the bidder	Guaranteed Technical Particulars (GTP)	Deviations from GTP
1	Place where equipment/service to be supplied/ provided	Regional Test Laboratory (RTL), CPRI, Nasik				
2	Scope	The scope covers supply, Installation, commissioning and Testing of Shunts for measurement of current during short circuit testing at On-Line Testing Laboratory (OLTL) at CPRI, Nasik. References : 1. IEC 62475: High current test techniques: Definitions and requirements for test currents and measuring systems. 2. STL Technical Report: Traceability of High Current measuring systems in High Power Laboratories, by applying calibration procedures using the STL reference shunts, Issue 2, July 2008.				
3	Application	High current measuring shunts shall be used for measurement of current during short circuit testing of Distribution and Power Transformers, Instrument Transformers, Switchgears and other equipments as per relevant product standards.				
4	Prequalification requirement	Similar type of shunts of the same OEM offered in this bid shall have been supplied and shall be in successful operation at minimum two short-circuit test laboratories. Performance certificate of the same shall be submitted with the bid.				
5	Prebid meeting requirement	The bidder may write to Purchase Section, CPRI, Bhopal for clarification if required.				
6	Ambient temperature	5 °C up to 50 °C				
7	Altitude	986 m above MSL				
8	Relative humidity	10 to 95 % (non-condensing)				
9	Seismic zone	suitable for Zone 3				
10	Installation	Indoor				
11	**100kA High Current measuring Shunts**	**Each Shunt shall be placed on Mobile trolley separately.**	6 Nos.			
11.1	Make & Model	To be furnished by bidder				
11.2	Rated continuos current	To be furnished by bidder				
11.3	Rated short-circuit	100kA				
11.4	Rated short-time current duration	3 seconds				
11.5	Rated peak short-circuit	250kA				
11.6	DC Nominal Resistance	≤100 Micro-ohms				
11.7	Actual DC resistance deviation from nominal	To be furnished by bidder				
11.8	Frequency	50 Hz				
11.9	Maximum resistance variation during the rated	±2%				
11.10	Response time	< 2 micro second				
11.11	Bandwidth	dc to 10kHz				
11.12	Overall Accuracy	1.00%				
11.13	Maximum temperature rise	≤150°C				
12	**10kA High Current measuring Shunts**	**Each Shunt shall be placed on Mobile trolley separately.**	3 Nos.			
12.1	Make & Model	To be furnished by bidder				
12.2	Rated continuos current	To be furnished by bidder				
12.3	Rated short-circuit	10kA				
12.4	Rated short-time current duration	3 seconds				
12.5	Rated peak short-circuit current	25kA				
12.6	DC Nominal Resistance	<1000 Micro-ohms				
12.7	Actual DC resistance deviation from nominal	To be furnished by bidder				
12.8	Frequency	50 Hz				
12.9	Maximum resistance variation during the rated service	±2%				
12.10	Response time	< 2 micro second				
12.11	Bandwidth	dc to 50kHz				

12.12	Overall Accuracy	1.00%				
12.13	Maximum temperature rise	≤150°C				
13	General Description	The high current shunts shall have a tubular construction with coaxial return. The two tubes (the innermost made of resistive material, the outermost of copper shall be strongly connected at one end. The current to be measured shall flow through the resistive tube and get out through the external coaxial tube with an opposite and symmetrical path, thus minimizing the overall inductance."The high current shunts shall have a tubular construction with coaxial return. The two tubes (the innermost made of resistive material, the outermost of copper shall be strongly connected at one end. The current to be measured shall flow through the resistive tube and get out through the external coaxial tube with an opposite and symmetrical path, thus minimising the overall inductance. **Alternatively, the high current shunts may have rectangular or pot type configuration.** The shunts shall be designed in order to withstand the electrodynamic stresses associated with very high current flow. They shall ensure low measurement uncertainty, mostly arising from the specific resistance variation produced by the temperature rise during single or repeated short-circuit cycles. The shunts, when subjected to steep fronts of the current wave shape, shall show a low response time and a low delay time. The output signal will be transmitted to the Data Acquisition System by means of a fibre optic insulated link/Coaxial cable.				
14	Cooling	Natural (In order to be able to improve shunt performances in the future by means of forced air cooling, threaded holes at the top and at the base of each shunt for connecting pipe fittings shall be drilled. The same holes shall be appropriate to connect the earth wire, if required.)				
15	Output connectors	Lemo or BNC connectors (three spare sets of connectors are to be supplied)				
16	Features	Each shunt shall be provided with input and output flanges, appropriate for the bolted connection to the power circuits. The size of bolts shall be agreed with the Customer. All free-air copper parts shall be silver faced. Each shunt shall be provided with a nameplate showing at least the following information: • unique sample identification • year of manufacturing • actual resistance value • rated short-time current • rated peak short-circuit current • response time • rated service • material				
17	Rated Service	a) 3 Numbers, totally asymmetrical short circuits, each lasting 0.25 s, in a period of 30 min. The interval between each short-circuit can be 3 min. At the end of this test cycle, a pause of 30 min shall be followed. b) 1 Number, totally asymmetrical short-circuit lasting up to 3 s, repeatable every 30 minutes.				
18	Design Recommendations	The Shunts are to be designed, manufactured and tested in accordance with the best international engineering practices under strict quality control to meet the requirement stipulated in these technical specifications. Adequate safety margins with respect to thermal, mechanical and electrical stresses are to be maintained during design, selection of raw material, manufacturing process etc. so that the devices will be provided of long life with least maintenance.				
19	Calibration	The Shunts shall be calibrated with respect to its performance, documentation and accuracy. Calibration shall cover all ranges covered as per specification. Calibration shall be done in a laboratory, which is accredited in accordance with ISO/IEC17025(latest) and with reference standards traceable to National/International standard. Calibration certificate shall be submitted along with the equipment.				
20	Demonstration	Supplier shall give complete demonstration of the shunt at the time of installation about the complete functionalities & usage of the instrument				

21	Testing	1. Measurement of response time: Each shunt type shall be subjected to the measurement of response and delay times, according to the procedures specified in IEC 62475: High current test techniques: Definitions and requirements for test currents and measuring systems. 2. DC Resistance Measurement:The DC resistance measurement shall be performed on each sample. Tests shall be conducted at the manufacturer works. Test reports of the above tests shall be provided at the time of supply of the shunts. The supplier shall inform CPRI of the Tests program 60 days in advance and shall allow CPRI				
22	Acceptance Test	Short-Time Current Test : Each shunt shall be subjected to a short-time current test as per rated service at CPRI Bengaluru and testing cost will be born by CPRI first time. Transportation and transit insurance (Bengaluru & Nasik) charges shall be born by the supplier. DC Resistance Measurement shall be made on each sample submitted to the short-time current tests and at the completion of the test.				
23	Performance Certificate	Performance certificate of quoted model not older than 5 years of the user to be submitted.				
24	Documents and Drawings	Supplier shall also submit three sets of all relevant technical specifications , operating instructions and General drawings, electrical schemes, installation drawings and Reports on inspection during manufacturing, routine and acceptance tests. All the documents shall be communicated in ENGLISH only. Documents are to be issued both on paper and soft copy.				
25	Installation and Commissioning	The installation/Commissioning of shunts shall be carried out by supplier at CPRI, Nasik Premises. After successful commissioning at CPRI laboratory, training on operation and maintenance of the shunts shall be given to CPRI officials by experienced professionals. During commissioning, performance shall be demonstrated by conducting test on 10 MVA test transformer or any other rating as offered by CPRI . This depends on the availability of rating of the transformer under test.				
26	Warranty	The equipment shall be guaranteed for 12 months from the successful commissioning.				
27	Additional Information to be given	The following information are to be given together with the offer: • ratings; • design description; • mechanical sketches; • electrical diagram; • calibration procedures; • installation and use constraints; • commitment to provide maintenance and spare parts; • outline of the user's manual.				