

## PROCUREMENT PROCEDURE OF CPRI (NON WORKS)

Revision No. : 03  
Dt of Revision : 25.07.2017

Issue No : 2  
Issue Dt. : 30.06.2003

Section : Formats  
Topic : e-Tender Technical Specification Document

Issued by : P A  
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## Section II - Technical Specification

**CENTRAL POWER RESEARCH INSTITUTE, BANGALORE** Web: [www.cpri.in](http://www.cpri.in), [www.tenderwizard.com/CPRI](http://www.tenderwizard.com/CPRI), Telefax: 080-2207 2010

Tender Enquiry No.: CPRI BLR19MUAD23C569

Description of the Equipment/Goods/Services: Supply, Installation, demonstration and training of Relay Test System with associated hardware kit and software to CPRI, Bangalore

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3) Pre-despatch Inspection & Training expenses shall be borne by CPRI. Information regarding the readiness of the equipment/machinery for the Pre-despatch Inspection should be communicated in writing by the supplier at least 70 (Seventy) days in advance, to obtain clearance from the Ministry, Government of India for deputation of nominated CPRI officers.

Name of the Vendor

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Sl.No.	Parameters	Qty	To be completed by the Bidder	
			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
<b>A. Scope</b>				
1	Supply, Installation, commissioning and training for two days of Relay Test System with associated hardware and software at CPRI, Bangalore	1 Set		
<b>B. Technical specifications (Please refer the Detailed Technical Specification (DTS) Document, Caluse Numers referred in DTS document are provided against each requirements below)</b>				
1	<b>RELAY TEST SYSTEM:</b>			
1.1	<b>Functional requiriment:</b>			
1.1.1	The indented Relay Test System shall be suitable to test all types of numerical protection relays in accordance with IEC 61850.	1 Set		
1.1.2	It shall be able to execute additional functions like Ramping, State Sequencer, harmonics.			

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1.2	<b>Hardware requirement:</b>			
1.2.1	The system shall have four (4) independent variable voltages (ac & dc) and six (6) independent variable current (ac & dc) sources. The amplitudes, frequencies and phase angles shall be user settable. They shall be variable independently. The kit shall have df/dt facility (i.e. frequency variation with respect to time, by using software).			
1.2.2	The required ranges of voltage sources shall be as follows: <ul style="list-style-type: none"> <li>• 0-300V for 4-phase AC (Ph-N) with 50VA output power.</li> <li>• 0-300V for 1-phase AC (Ph-Ph) with 250VA output power.</li> <li>• 0-300V for DC (L-N).</li> <li>• Accuracy shall be better than or equalent to 0.1%.</li> <li>• Resolution shall be 10mV or better.</li> </ul>			

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1.2.3	The required ranges of current sources shall be as follows: <ul style="list-style-type: none"> <li>• 0-25Aac for all 6-phase (Ph-N) with 350VA output power.</li> <li>• 0-50Aac for three phases (Ph-N) with 750VA output power.</li> <li>• 0-120Aac for (Ph-N) with 900VA output power.</li> <li>• 0-20Adc for all 6-phase (L-N) with 225W output power.</li> <li>• Accuracy shall be better than or equalent to 0.15%.</li> <li>• Resolution shall be 1mA or better.</li> </ul>			
1.2.4	The quoted system shall have auxiliary DC supply source. The output power of of the axxiliary DC supply source shall be 50 W for the ranges of 0 - 264 VDC, 0.2 A; 0 - 132 VDC, 0.4 A; 0 - 66 VDC, 0.8 A. The accuracy of the auxiliary supply shall be better than or equal to 5%.			
1.2.5	The neutral terminals of the sources shall be galvanically isolated from the neutrals of measurement inputs.			
1.2.6	Distortion (THD+N) shall not exceed 0.16% for both current and voltage sources			

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1.2.7	Frequency range shall be from 45 Hz. to 1000 Hz, variable. User shall be able to set the desired frequency value.			
1.2.8	Phase angle range shall be from -360° to 360° with a resolution of 0.001°. User shall be able to set the desired phase angle value.Phase error shall be better than or equal to ±0.2 deg for both current and voltage sources.			
1.2.9	The above required voltage and current sources shall be completely independent, atleast four outputs.			
1.2.10	The quoted Relay Test System shall have minimum 2 nos of Ethernet ports & one USB for the purpose of communication with computer.			
1.2.11	Voltage outputs shall be protected from short circuits and prolonged overloads. Current outputs shall be protected from open circuit and overloads.			
1.3	Binary inputs:			

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1.3.1	Minimum number of binary inputs shall be 10.			
1.3.2	Voltage sense level of the binary inputs shall be upto300V AC/DC.			
1.3.3	Resolution of time measurement shall be 1 ms or better.			
1.4	<b>Software requirement:</b>			
1.4.1	The testing software shall have the provision for adding test points in both manual and automatic modes directly as Symmetrical component values (Direct, Inverse (Positive, Negative and Zero sequence))			
1.4.2	The testing software shall able to show Vector Diagram representation of any selected test point, duuring and after completion of test. Also it shall show test point quantities during the test. The vector diagram shall also be part of the report.			

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1.4.3	The testing software shall have the possibility of fault quantity ramping (voltage or current or phase) for all fault loops LE, LL, LLL			
1.4.4	The testing software shall have the possibility of creating sequence of minimum 100 states for typical pre-fault, fault, post-fault applications with flexible trigger conditions time or binary inputs with logical AND and OR, Key pressed or External Triggers from GPS.			
1.4.5	The testing software shall have the possibility of adding test points in manual and automatic mode directly as Power (input values as power)			
1.4.6	The testing software shall have possibility of power S,P,Q quantity ramping as 3-phase or single phase powers.			
1.4.7	Test software shall have possibility to operate in primary or secondary values (Z, R, X, S, P, Q, V, I) and allow toggling between these 2 operation modes at any time (before; during or after the test)			

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1.4.8	The testing software shall have the possibility of Impedance quantity ramping as IZI, Phi, R, and X for fault loops LE, LL, and LLL			
1.4.9	The test software shall have the possibility to export the automatically generated test report as .rtf (Rich Text Format) file, .csv format (Comma Separated Values) & .xml format (Extensible Markup Language)			
1.4.10	Relay software shall have facility to vary 2 parameters or more like Voltage Amplitude & Current Amplitude at a time to create a real fault simulation.			
1.4.11	Software shall have a facility to playback the Comtrade (.cfg) files to the Protection relays			
1.4.12	Software shall be capable to perform Harmonics Testing on Generator and Transformer protection relays.			
1.4.13	<b>Automatic test plan creation for easy maintenance:</b>			

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1.4.13.1	It shall be possible to create test plans build, maintained and distributed.			
1.4.13.2	It shall be possible to make Common test object data, hardware configuration, and test modules for different device functions for collecting in one test plan.			
1.4.13.3	The test plan shall automatically execute the test modules – one by one, results being stored in the included dynamic report.			
1.4.13.4	The modules Pause, Execute and Text View shall make the test plan interactive.			
1.5	<b>Testing for IEC 61850 requirement:</b>			
1.5.1	The test set shall be possible to publish & Subscribe GOOSE.			
1.5.2	The test set shall be capable of mapping input for GOOSE up to 360 virtual inputs and outputs.			



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1.5.3	The test set shall provide the possibility to generate up to 2 streams of IEC 61850 Sampled Values (SV) for simulation of merging units and Sampled Value streams produced shall be able to synchronize to time source including IEEE 1588 PTP			
1.5.4	Sampled Values versions according to the implementation guideline of the UCA International User Group (IEC 61850 9-2LE) shall be supported			
1.5.5	The preferred SV versions for protection and measurement according to IEC 61869-9 shall be supported			
1.5.6	Software shall have facility to simulate options to check/simulate the Quality of the Sampled values testing such as Overflow, bad-reference, out of range, Oscillatory, Old data, failure, inconsistent, & Inaccuracy.			
2	<b>HYBRID SIGNAL ANALYZER FOR DIGITAL SUBSTATIONS:</b>			

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2.1	General Requirement: a) The hybrid Signal Analyzer shall have the capabilities to analyse all conventional signals (voltages, currents, hard-wired binary/analog status signals) and messages on the Ethernet communication Network in a substation environment. b) The quoted analyser shall support measuring and recording conventional (analog and binary) signals and traffic from power utility communication networks (GOOSE, Sampled Values, etc) and it shall be possible to measure both analog currents and analog voltages.	1 Set		
2.2	<b>Functional requirement:</b>			
2.3	Continuous Network Traffic of IEC 61850 monitoring and shall be able to issue alerts in case of abnormalities which can be defined by the user.			
2.4	The kit shall allow to combine network traffic, IEC 61850 signals as GOOSE and Sampled Values and analogue measurements in a single recording.			
2.5	It shall be possible to record the network traffic between two devices.			

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2.6	The sampling frequency of the device shall be 40 kHz or more.			
2.7	The kit has capabilities to be synchronized to IEEE 1588 PTP.			
2.8	The kit shall allow distributed operation and analysis from several devices at the same time.			
2.9	The kit shall allow to use SCL files for GOOSE and Sampled Values definition.			
2.10	The kit shall support Sampled Values as per the IEC 61869-9 standard.			
2.11	The device shall check that all GOOSE and Sampled Values defined in SCL file are available and detect orphans.			
2.12	The kit shall check that the IED servers and their data model defined in SCL file are available.			
2.13	It shall be possible to supervise the substation network traffic and detect GOOSE, SV, PTP problems.			

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2.14	It shall be possible to measure the propagation delay of packages in the network with any network traffic.			
2.15	The analysing device shall be able to measure physical voltages and currents.			
2.16	The analysing device shall be able to measure binary inputs.			
2.17	The kit shall be able to observe and record IEC 61850 Sampled Values streams from different IEDs at the same time.			
2.18	The kit shall be able to observe and record IEC 61850 GOOSE messages from different IEDs at the same time.			
2.19	The kit shall have enough internal memory and shall allow connection to mass storage to extend the memory.			
2.20	The kit shall allow flexible triggers and combination of them.			

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			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
2.21	The kit shall be able to publish Sampled Values streams with option to enable Simulation flag and change quality information.			
2.22	The kit shall have functionality to inject single phase faults in Sampled value.			
2.23	The kit shall have interface to compare different Samples value streams and analog values in Phasor view.			
2.24	Analog inputs: Number of analogue measurement inputs:10 Measurement ranges (RMS value of the sinusoidal shaped input signal):10 mV, 100 mV, 1 V, 10 V, 100 V, 600 V Crest factor: 1.75 Sampling frequency:10 kHz and 40 kHz Input impedance: (1 MΩ ±2 %)    (170 pF ±50 pF)			

## PROCUREMENT PROCEDURE OF CPRI (NON WORKS)

Revision No. : 03  
Dt of Revision : 25.07.2017

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Section : Formats  
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Tender Enquiry No.: CPRIblr19MUAD23C569

Description of the Equipment/Goods/Services: Supply, Installation, demonstration and training of Relay Test System with associated hardware kit and software to CPRI, Bangalore

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Name of the Vendor

Quotation Number and Date

Sl.No.	Parameters	Qty	To be completed by the Bidder																																								
			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any																																							
2.25	<p>Magnitude accuracy: The maximum measurement error requirement allowed is specified in percent (%) unit. The error is composed by two parts, the first one referring to the actual reading and the second one referring to the measurement range.</p> <p>Maximum error</p> <table border="1"> <thead> <tr> <th>Sampling frequency</th> <th>10 kHz / 40 kHz</th> <th>10 kHz / 40 kHz</th> <th>10 kHz</th> <th>40 kHz</th> </tr> </thead> <tbody> <tr> <td>Frequency range</td> <td>DC</td> <td>10 Hz to 1 kHz</td> <td>1 kHz to 4 kHz</td> <td>1 kHz to 10 kHz</td> </tr> <tr> <td>10 mV</td> <td>0.08 + 0.50</td> <td>0.20 + 0.30</td> <td>0.20 + 0.30</td> <td>0.20 + 0.30</td> </tr> <tr> <td>100 mV</td> <td>0.08 + 0.07</td> <td>0.08 + 0.05</td> <td>0.16 + 0.04</td> <td>0.16 + 0.04</td> </tr> <tr> <td>1 V</td> <td>0.08 + 0.02</td> <td>0.08 + 0.02</td> <td>0.16 + 0.04</td> <td>0.16 + 0.04</td> </tr> <tr> <td>10 V</td> <td>0.08 + 0.02</td> <td>0.08 + 0.02</td> <td>0.16 + 0.04</td> <td>0.16 + 0.04</td> </tr> <tr> <td>100 V</td> <td>0.08 + 0.02</td> <td>0.08 + 0.02</td> <td>0.16 + 0.04</td> <td>0.16 + 0.04</td> </tr> <tr> <td>600 V</td> <td>0.08 + 0.02</td> <td>0.08 + 0.02</td> <td>0.16 + 0.04</td> <td>0.16 + 0.04</td> </tr> </tbody> </table>	Sampling frequency	10 kHz / 40 kHz	10 kHz / 40 kHz	10 kHz	40 kHz	Frequency range	DC	10 Hz to 1 kHz	1 kHz to 4 kHz	1 kHz to 10 kHz	10 mV	0.08 + 0.50	0.20 + 0.30	0.20 + 0.30	0.20 + 0.30	100 mV	0.08 + 0.07	0.08 + 0.05	0.16 + 0.04	0.16 + 0.04	1 V	0.08 + 0.02	0.08 + 0.02	0.16 + 0.04	0.16 + 0.04	10 V	0.08 + 0.02	0.08 + 0.02	0.16 + 0.04	0.16 + 0.04	100 V	0.08 + 0.02	0.08 + 0.02	0.16 + 0.04	0.16 + 0.04	600 V	0.08 + 0.02	0.08 + 0.02	0.16 + 0.04	0.16 + 0.04		
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Name of the Vendor

Quotation Number and Date

Sl.No.	Parameters	Qty	To be completed by the Bidder																
			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any															
2.26	<p>Phase and frequency accuracy: Phase and frequency accuracy are specified for signal levels above 10% of range and sinusoidal signals for the range of 10mV or better.</p> <p>Accuracy of frequency and phase measurements</p> <table border="1"> <thead> <tr> <th>Sample frequency measurement</th> <th>Frequency range</th> <th>Maximum error</th> <th>Phase</th> </tr> </thead> <tbody> <tr> <td>10 kHz</td> <td>15 Hz to 70 Hz</td> <td>0.01 %</td> <td></td> </tr> <tr> <td>0.1°</td> <td></td> <td></td> <td></td> </tr> <tr> <td>40 kHz</td> <td>15 Hz to 70 Hz</td> <td>0.01 %</td> <td></td> </tr> </tbody> </table>	Sample frequency measurement	Frequency range	Maximum error	Phase	10 kHz	15 Hz to 70 Hz	0.01 %		0.1°				40 kHz	15 Hz to 70 Hz	0.01 %			
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			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
2.27	Binary inputs Number of binary inputs : 10 Number of potential groups : 10 Trigger criteria : Potential-free (16 V even when device is not in run mode) or DC- voltage compared to threshold voltage Input ranges : 10 V (-10 V to 10 V); 100 V (-100 V to 100 V); 600 V (-600 V to 600 V) default: 600 V Sampling frequency : 10 kHz Time resolution : 100 µs Threshold Resolution (input range): 18 V 100 mV (600 V); 10 mV (100 V); 1 mV (10 V) Hysteresis : 10 % of absolute value of threshold or 1 % of input range, whichever is higher; Pick-up value is threshold; Drop-off value is threshold minus hysteresis Deglitch time Range : 0 to 500 ms; default: 0.5 ms Resolution : 100 µs Debounce time Range : 0 to 500 ms; default: 1 ms Resolution : 100 µs Connectors : 4 mm/0.16 " banana sockets on the front panel Insulation : 10 galvanic insulated binary inputs. Functional isolation with 4 mm creepage between channels. Reinforced insulation from all SELV interfaces and from power supply. Data for potential-free operation : Logical 1: R < 20 kΩ			



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			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
2.28	Binary outputs Number of binary outputs : 4 AC loading : Vmax = 300 V AC ; Imax = 8 A ; Smax = 2000 VA DC loading : Vmax = 300 V DC ; Imax = 8 A ; Pmax = 50 W (refer to load limit curve) Switch-on current : 15 A (max. 4 s at 10 % duty-cycle) Electrical lifetime : 100000 switching cycles at 230 V AC / 8 A and ohmic load Pickup time : 6 ms Fall back time : 3 ms Bounce time : 0.5 ms Connectors : 4 mm/0.16 " banana sockets Insulation : Reinforced insulation from all SELV interfaces and from power supply.			
2.29	Ethernet Ports All Ethernet ports support Power over Ethernet (PoE) according to IEEE 802.3af and IEEE 802.3at. The accumulated output power of all PoE ports shall be limited to 75 W.			

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Sl.No.	Parameters	Qty	To be completed by the Bidder	
			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
2.29 (a)	Ethernet Ports (Control and Network) Type : 10/100/1000Base-TX Connector : RJ45 Cable type : LAN cable of category 5 (CAT5) or better Status indication : LED (Colour 1) : physical link present; LEC (Colour 2) : Traffic on interface Power over Ethernet (PoE) : IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) compliant			
2.29(b)	Extension Ports (Out 1 and Out 2) All Ethernet ports support Power over Ethernet (PoE) according to IEEE 802.3af and IEEE 802.3at. The accumulated output power of all PoE ports shall be limited to 75 W. Type : 100Base-TX Connector : RJ45 Cable type : LAN cable of category 5 (CAT5) or better Status indication : LED (Colour 1) : physical link present; LEC (Colour 2) : Traffic on interface Power over Ethernet (PoE) : IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) compliant			

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Sl.No.	Parameters	Qty	To be completed by the Bidder	
			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
2.30	Control port Type : USB 2.0 high speed (480 Mbit/s) / USB 1.1 compatible (12 Mbit/s) Power : 4.5 W (5 V @ 900 mA) Connector : USB type B Cable : < 5 m USB 2.0 high speed type A-B			
2.31	Storage port Type : USB 3.0 ultra speed (5 Gbit/s) Connector : USB type A Cable : Up to 900 Ma			
2.32	Environmental conditions Operating temperature : upto +50 °C or better Storage and transportation : 10 °C to +70 °C or better Humidity upto 70% relative humidity; no condensation			
3	<b>SUBSTATION AUTOMATION SYSTEM (SAS) TESTING:</b>			

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Sl.No.	Parameters	Qty	To be completed by the Bidder	
			Guaranteed Technical Particulars (GTP)	Specify deviations/ Remarks if any
3.1	The testing solution shall consist of hardware and software.	1 Set		
3.2	The hardware shall allow cyber secured connection to Substation Automation Systems.			
3.3	The hardware can be connected to minimum 4 separate networks without bridging the network.			
3.4	The hardware shall be fanless and without rotating parts (as hard drives) .			
3.5	The software shall visualize Client/ Server communication in IEC 61850.			
3.6	The software shall visualize GOOSE communication in IEC 61850.			
3.7	The software shall visualize SV communication in IEC 61850.			
3.8	The software shall show GOOSE subscription.			
3.9	The software shall show GOOSE subscription status (LGOS).			

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			Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
3.10	The solution shall check GOOSE on the substation network.			
3.11	The names in the software shall be possible to be changed.			
3.12	The software shall import IEC 61850 names within Comma Separated Values (CSV) files.			
3.13	The software shall take all the information out of the Sub-Station Configuration Language (SCL) file automatically for visualization of SCL files without manual configuration.			
3.14	The software shows IED characteristics grouped by application.			
3.15	It shall be possible for the software to limit the data attributes shown to those in DataSets.			
3.16	It shall allow simulation of multiple IEDs with their IP addresses.			
3.17	The software shall check in case of simulation IEDs working already.			

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3.18	The software shall indicates testing indication.			
3.19	The software shall allow filtering of GOOSE, Reports and Sampled Values			
3.20	The software shall allow filtering of incoming and outgoing traffic. The software shall group the IEDs according to the definitions in substation section			
3.21	The software shall indicate issues in SCL files read.			
3.22	The software shall allow adding additional IEDs while importing SCL file.			
3.23	The software shall be able to connect to multiple IEDs simultaneously.			
3.24	The test set shall be equipped with a Trusted Platform Module (TPM) to store cryptographic certificates,			
3.25	The test set shall come with full disk encryption.			

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3.26	The test set shall allow only signed firmware upgrades with a certificate.			
3.27	The communication between software and test set is authenticated and encrypted using TLS 1.3. The product shall be able to be synchronised to a time source .			
3.28	Test cases and modifications to the test setup shall be able to be saved into a test document.			
3.29	Features of the software required to be supported.			
3.29.1	Software shall have a facility to show the Live Overview of Substation & it shall have facility to display the Live status, Single-Line view, Communication view by importing SCD file into the software.			
3.29.2	Software shall Simulate the Missing events, Missing assets or IED's and stimulate signals for testing			

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3.29.3	Facility to make a test plan to test the Automated substation at FAT level and Repeat the test plan at SAT level to understand/Fix the behaviour of the system compare to FAT with Substation equipments.			
3.29.4	shall capable to test/simulate the whole substation and view the behaviour using respective software.			
3.29.5	Possible for reuse test plans at re-commissioning and after security patches			
4.1	Warranty: Two years from the date of successful installation and commissioning.	-		



## PROCUREMENT PROCEDURE OF CPRI (NON WORKS)

Revision No. : 03  
Dt of Revision : 25.07.2017

Issue No : 2  
Issue Dt. : 30.06.2003

Section : Formats  
Topic : e-Tender Technical Specification Document

Issued by : P A  
Documents : PPM

FORMAT NO.:CPRI/PUR/eTBID/GTP

## Section II - Technical Specification

**CENTRAL POWER RESEARCH INSTITUTE, BANGALORE** Web: [www.cpri.in](http://www.cpri.in), [www.tenderwizard.com/CPRI](http://www.tenderwizard.com/CPRI), Telefax: 080-2207 2010

Tender Enquiry No.: CPRI BLR19MUAD23C569

Description of the Equipment/ Goods/ Services: Supply, Installation, demonstration and training of Relay Test System with associated hardware kit and software to CPRI, Bangalore

Note : 1) The Offers should be submitted only in this format otherwise the offer will be liable to be rejected.

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

3) Pre-despatch Inspection & Training expenses shall be borne by CPRI. Information regarding the readiness of the equipment/ machinery for the Pre-despatch Inspection should be communicated in writing by the supplier at least 70 (Seventy) days in advance, to obtain clearance from the Ministry, Government of India for deputation of nominated CPRI officers.

Name of the Vendor

Quotation Number and Date

Sl.No.	Parameters	Qty	To be completed by the Bidder	
			Guaranteed Technical Particulars (GTP)	Specify deviations/ Remarks if any
4.2	General requirement: a) The quoted relay test kit shall be interfaceable to computer. b) The supply shall include usage / operational manual, carry bag, power lead, Ethernet patch cable, USB connection cable, 12 leads with 4mm safety plugs, 12 flexible terminal adapters, 4 flexible jumpers for paralleling current output. c) Relay test system shall be supplied along with a valid calibration certificate from duly accredited lab as per ISO / IEC 17025:2017. The date of calibration shall not be older than 2 months from the date of supply. d) Hybrid Signal Analyser shall be supplied along with a valid calibration certificate or test certificate. The date of calibration shall not be older than 2 months from the date of supply. e) Server / Computer / Laptop are not in the scope of supply.	—		
4.3	Main power supply: Voltage: 240 V AC +/-5%, single phase Frequency: 50Hz +/-5%	—		

PROCUREMENT PROCEDURE OF CPRI (NON WORKS)				
Revision No. : 03				Issue No : 2
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FORMAT NO.:CPRI/PUR/ETBID/GTP				
<b>Section II -Technical Specification</b>				
<b>CENTRAL POWER RESEARCH INSTITUTE, BANGALORE Web: <a href="http://www.cpri.in">www.cpri.in</a>, <a href="http://www.tenderwizard.com/CPRI">www.tenderwizard.com/CPRI</a>, Telefax: 080-2207 2010</b>				
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Name of the Vendor				
Quotation Number and Date				
			<b>To be completed by the Bidder</b>	
Sl.No.	Parameters	Qty	Guaranteed Technical Particulars (GTP)	Specify deviations/Remarks if any
PN: 1) Bidder shall indicate complete details/information how the CPRI GTP are complied with against each and every specification parameters & mere statement of 'complied' do not suffice the requirement.				
2)A detailed technical/catalogue/literature/phamplet and any other details shall be submitted in hard copy in a sealed cover superscribing enquiry number and due date so as to reach the following address within the due date and time.				
3) The Indian representative of the foreign/overseas firms shall submit the Letter of Authorization issued by their principals.				
4)The bidder shall submit the quotation / offer in the above prescribed format of Section IA , IB and II only . Informations any other forms shall shall be rejected.				
<b>Address :</b> Joint Director (Purchase), Purchase Authority , Central Power Research Institute, Sadashiva Nagar P.O., P.Box.No.8066, Bengaluru-560 80.				
Tele: 080-2207 2271, email: <a href="mailto:purchase@cpri.in">purchase@cpri.in</a> , web: <a href="http://www.cpri.in">www.cpri.in</a>				