

Ref: CL/PP/BID-07(07-08)

Date: 10-05-2007

**Subject: SUPPLY OF COMPUTER CONTROLLED WINDOWS BASED SYSTEM  
WITH LOAD FOR SWITCH TESTING for CL**

Dear Sirs,

Technical & Commercial Bids are invited for the supply of **COMPUTER CONTROLLED WINDOWS BASED SYSTEM WITH LOAD FOR SWITCH TESTING**, in **separate SEALED** covers, which should reach the undersigned latest by 1700 h, on **31 May 2007**, at the following address.

**Director & Head (Planning & Purchase)**  
BUREAU OF INDIAN STANDARDS  
Central Laboratory  
Plot No.20/9, Site-IV,  
Sahibabad Industrial Area, Sahibabad,  
Distt. Ghaziabad-201010 (U.P.)

2. The detailed specification of the above mentioned equipment(s)/item(s) are given in **Annex- I**
3. Terms and conditions of supply are given in **Annex-II**
4. The technical Bids shall be opened in the **Conference Hall**, of the Central Lab, at the address mentioned above at **1500 h on 01 June 2007** and in the presence of such tenderers or their duly authorized representatives, who may like to attend.
5. Please note that the envelopes containing Technical & Commercial Bids are sealed properly i.e. either wax sealed or with adhesive cello tape on both ends. **Unsigned & Unstamped Bids in Unsealed /stapled envelopes** and bids **without EMD** shall be summarily rejected. **No exemption** whatsoever for payment of EMD shall be accorded.
6. The specification and terms & conditions can also be downloaded from BIS Website – [www.bis.org.in](http://www.bis.org.in)

Thanking you,

Encl.: as above

Yours faithfully,

-sd-

**Director & Head (Planning & Purchase)**

**Annex-I**

**BUREAU OF INDIAN STANDARDS  
CENTRAL LABRATORY  
EQUIPMENT SPECIFICATION**

---

<b>EQUIPMENT /SPECIFICATION CODE</b>	<b>:</b>	<b>CCE 06</b>
<b>NAME OF THE EQUIPMENT</b>	<b>:</b>	<b>COMPUTER CONTROLLED WINDOWS BASED SYSTEM WITH LOAD FOR SWITCH TESTING</b>
<b>PROPOSED FOR BIS LABS</b>	<b>:</b>	<b>CL ELECTRICAL</b>
<b>TOTAL QUANTITY REQUIRED</b>	<b>:</b>	<b>One</b>

---

**TECHNICAL SPECIFICATION FOR PROGRAMMABLE TEST SYSTEM TO  
CARRYOUT NORMAL OPERATION TEST AND MAKING & BREAKING CAPACITY  
TEST ON SWITCHES OF RATINGS 6 & 16 AMP (AS PER CLAUSE 18 & 19 OF IS  
3854:1997)**

1. The Automated Test System connected to a computer based programme shall consist of:
  - a) Actuating Mechanism/ Test panels / display / control panels whose operation should be controlled by a computer ( Pentium / Windows based ) capable to test the samples of Switches of 6 & 16 Amp rating for Making & Breaking Test and Normal Operation Test as per Cl. 18 & 19 of IS 3854:1997.
  - b) Computer - Pentium based with software to run the system and printer.
  - c) UPS for computer and printer. It shall be on line and shall have backup power of at least 2 hours and shall give ac output in sine wave form at 50 Hz.
  - d) Printer
2. The Equipment should be capable to test the switches for Making & Breaking Test (Cl. 18 of IS 3854:1997) at controlled / adjustable Number of Operation, Speed, Voltage, Current and Power Factor. One Operation consists of "transfer of the moving contacts from one operating positions to another".
3. The Actuating Mechanism shall have controlled speed ranging from 5 to 50 operation / minute.
4. After completion of Making & Breaking Test the equipment automatically comes down for Normal Operation Test (Cl. 19 of IS 3854:1997) at controlled / adjustable Number of Operation, Speed, Voltage, Current and Power Factor.

Contd...p/2

**5. TEST VOLTAGE, CURRENT AND POWER FACTOR:**

- i) For Normal Operation Test – Test voltages are 230 V, 240 V and 250 V, ac and Test currents are 6 Amp. and 16 Amp., ac, at Power Factor  $0.6 \pm 0.05$ .
- ii) For Making & Breaking Test - At 1.1 times the Test Voltages stated at Sl. No. 5, i ) and 1.25 times the Test Currents stated at Sl. No. 5, i ) at Power Factor  $0.3 \pm 0.05$ .
- iii) The tolerance for the test voltage is + 5 % & - 0 %.

- 6.** The system shall put the switches 'ON' and 'OFF' for adjustable time-period for the operation i.e. 50 % 'ON' & 50 % 'OFF' for Making & Breaking Test and 25 % 'ON' & 75 % 'OFF' for Normal Operation Test as per the following table:

Rating of switches of all varieties	Operation per minute	'ON' time	'OFF' time	Remarks/ CI reference
Making & Breaking Test				
6 Amp	30	2 Second	2 Second	See CI 18 of IS:3854-1997
16 Amp	15	4 Second	4 Second	
Normal Operation Test				
6 Amp	30	1 Second	3 Second	See CI 19 of IS:3854-1997
16 Amp	15	2 Second	6 Second	

- 7.** The 'ON' period shall be (25 % +5% -0) of the total cycle and the 'OFF' period shall be (75 % -5% +0) for normal operation test.
- 8.** The computerized system should be capable to monitor / control / display / record and print the following data of each switch separately at the time of failure / completion of test:
- a) Test Voltage, Current, Power Factor and No. of operation;
  - b) Date of failure/ completion of test; and
  - c) Address of the switch (e.g. Specimen No. 1 to 9).
- 9.** The system should be capable to stop testing (after completion of number of operation at ' OFF ' position only. If a particular switch starts malfunctioning during the test, the system should be capable to disconnect the same from testing and performance of the same switch should be recorded.

10. The printer output shall contain the following:
  - a) The printer output shall have the heading: Bureau of Indian Standards, Central Laboratory (Electrical).
  - b) Normal Operation / Making & Breaking Test
  - c) Date and Time of print out.
  - d) Sample No.: It shall have one alphabet, dash and seven numerals (e.g. E-1234567 or E-0001234.)
  - e) Specimen No. 1 to 9.
  - f) Start date and time
  - g) Completion date and time
  - h) Speed of actuating mechanism
  - i) Test Voltage
  - j) Test Current
  - k) No. of Operations Completed
  - l) Status of the test
11. The apparatus shall have the provision to mount / fix the Switches as in normal use without using special type of tools.
12. The system should be safe from dust, corrosion and electric shock and have adequate mechanical strength.
13. The Equipment should have Digital Ammeter, Voltmeter, Power Factor meter and Counter for each switch separately. These instruments shall be detachable / portable to facilitate their calibration/ repair/ replacement.
14. There should be an interface between load and computer system. The load should be separate unit.
15. The computerized system should be capable to test simultaneously 6 Nos. of switches for the 6 Amp rating or 3 Nos. of switches of 16 Amp rating.
16. The system should be capable to test the samples of different ratings ( Current / Voltage ) and types ( Flush type, Surface type and Press fit type ).
17. The System shall have computerized as well as manual controls for carrying out Normal Operation and Making & Breaking Test.
18. The system should comply all the provisions of Cl. 18 & 19 of IS 3854:1997.
19. The supplier shall provide all the literatures/software related to the system such as Operation / Instruction Manual, Circuit Diagram, trouble shooting etc.
20. All measuring instruments shall be supplied with calibration certificates from NABL approved Calibration Agency.

**TERMS & CONDITIONS**

1. The BUREAU gives FIRST PREFERENCE in its purchase to goods bearing ISI CERTIFICATION MARK and second preference to those which conform to the relevant Indian Standard Specifications.
2. The delivery of the stores is required to be made within 30 days of receipt of order. If, it is not possible for you to effect delivery within the period, you are required to specify the date by which you can guarantee delivery of the stores.
3. The **Technical & Commercial Bids should be sealed and sent separately in sealed envelopes & duly superscribed (giving Equipment name, technical/financial bid, due date of opening & Ref. No. on the top of the envelope)**. Such Bids shall remain valid for a period of 90 days from the date of opening.
4. Quotations/Bids, qualified by indefinite expressions as “Subject to immediate acceptance, Subject to prior sale” etc. and incomplete quotations are liable to be summarily rejected.
5. The Bids should clearly give break-up of cost of each equipment. The rates quoted should separately indicate Basic Cost, Excise Duty, Sales Tax, P&F charges, Freight, Insurance, VAT etc. Rates quoted should specifically state Sales Tax, Excise Duty or any other taxes/charges. In absence of any such stipulation, it will be presumed that the prices include all such charges and no claim for the same shall be entertained. **Form C/D shall not be provided by BIS.**
6. Each tender document shall be accompanied with **EMD of 3% of total cost of the equipment (excluding taxes)**. The demand draft for the EMD amount shall be drawn in favour of BUREAU OF INDIAN STANDARDS payable at Sahibabad/Ghaziabad. The sealed envelope containing EMD should be super scribed “**EMD**” and **stapled separately with the envelope containing the commercial Bids. No disclosure of EMD in Tech. Bid.**
7. BIS shall pay **90%** of the cost after satisfactory installation & commissioning and the Balance of **10% as contract performance security** would be paid after expiry of warranty period. However other terms of payment for contract performance security can also be considered, if so stated clearly.
8. The **warranty period** of the equipments **may be stated clearly** in the Technical Bids. In case the **same is not found stated**, it will be presumed that **warranty period as mentioned in their respective specifications of the tender document (if specified), is applicable**
9. Please mention clearly in the Technical Bids regarding address of **arrangements for service/repair** of the equipments are available. Suppliers having such arrangements near Delhi/Ghaziabad would be preferred.
10. All goods received would be subjected to inspection, by BIS before or after receipt or commissioning (as applicable) and the decision of BIS shall be binding. Rejected items/goods/stores shall be removed by the supplier at his own cost and risk, within 30 days of receipt of notice for the removal of such goods, and no liability, whatsoever, on the Bureau shall be attached for the rejected/disapproved goods/items/stores.
11. The Bureau reserves the right to accept or reject summarily and or all tenders in whole or part without assigning any reason whatsoever.
12. The Bureau takes no responsibility for delay, loss or non-receipt of tenders after dispatch.
13. **In case of non compliance with the Terms & Conditions of the contract, the Bureau reserves its right to:**
  - a) Cancel/rescind/revoke the order if supply is not made in time and is not conforming to the required specification.
  - b) Impose Penalty up to 1% of the total value of the order for a delay of every seven days after the schedule date subject to the ceiling of a maximum of 10% of the total value of the order.
14. All questions, disputes or difference arriving under, out of or in connection with this tender enquiry shall be subject to the exclusive jurisdiction of Delhi/ Ghaziabad Courts.