



## **TENDER**

**for**

**Supply of Electrical items for Test Bench**

**Tender No. NTSC(C)/EC/02/2011-12**

Issued by

**NSIC TECHNICAL SERVICES CENTRE,  
THE NATIONAL SMALL INDUSTRIES CORPORATION LTD.,  
(A GOVT. OF INDIA ENTERPRISE)  
SECTOR B-24, GUINDY INDUSTRIAL ESTATE  
EKKADUTHANGAL, CHENNAI – 600 032.**

TEL: 044-22252335/6/7  
E-Mail: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in)

FAX: 044-22254500  
Website : [www.nsic.co.in](http://www.nsic.co.in)

**NSIC TECHNICAL SERVICES CENTRE  
NATIONAL SMALL INDUSTRIES CORPORATION LTD.**

(A Govt. of India Enterprise)

Sector-B-24. Guindy Industrial Estate, Ekkaduthangal, Chennai – 600 032.

Phone: 22252335/6/7 Fax: 22254500 E Mail: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in) Website: [www.nsic.co.in](http://www.nsic.co.in)

Ref. No: NTSC (C)/EC/02/2011-12

Dated: 01-02-2012

**INDEX**

| <b>Sl.No.</b> | <b>Description</b>                        | <b>Page No.</b> |
|---------------|---|-----------------|
| <b>1</b>      | Cover Page                                | <b>1</b>        |
| <b>2</b>      | Index                                     | <b>2</b>        |
| <b>3</b>      | Notice Inviting Tender                    | <b>3</b>        |
| <b>4</b>      | Instructions to the Tenderers             | <b>4</b>        |
| <b>5</b>      | Form of Tender                            | <b>5</b>        |
| <b>6</b>      | Commercial and General Terms & Conditions | <b>6 - 7</b>    |
| <b>7</b>      | Annexure                                  | <b>8</b>        |

**NSIC TECHNICAL SERVICES CENTRE  
NATIONAL SMALL INDUSTRIES CORPORATION LTD.**

(A Govt. of India Enterprise)

Sector-B-24. Guindy Industrial Estate, Ekkaduthangal, Chennai – 600 032.

Phone: 22252335/6/7 Fax: 22254500 E Mail: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in) Website: [www.nsic.co.in](http://www.nsic.co.in)

Ref. No: NTSC (C)/EC/02/2011-12

Dated: 01-02-2012

**NOTICE INVITING TENDER**

Sealed tenders are hereby invited on behalf of the General Manager, NSIC Technical Services Centre (NTSC), Sector B-24, Guindy Industrial Estate Ekkaduthangal, Chennai – 600032 from the reputed firms/agencies/companies who are interested in supplying Electrical items for Test Bench as per list given at Annexure so as to reach the General Manager, NTSC, Chennai – 600 032 upto **3.00 p.m. on 16-02-2012**. The details as summarized below:-

|    |   |   |
|----|---|---|
| a) | Name of the Electrical items                          | As per Annexure   |
| b) | Earnest Money Deposit                                 | 5% of the quoted price against <b>each item</b> & should be <b>rounded off</b> to the <b>nearest 500 rupees on higher side</b> . (Example: if calculated <b>EMD is Rs.501 then Rs.1000 is to be deposited as EMD against each item</b> ).   |
| c) | Cost of Tender Document                               | Rs. 500/- (non-refundable)  |
| d) | System of Tender submission                           | Two bid system – <b>Technical Bid</b> and <b>Financial Bid</b> separately in two sealed covers superscribing "TECHNICAL BID for the supply of Electrical items for Test Bench" and "FINANCIAL BID for the supply of Electrical items for Test Bench". Both envelopes should be kept in a third cover superscribing "Tender for the supply of Electrical items for Test Bench" |
| e) | Supply of equipments                                  | Within three weeks from the date of awarding the order  |
| f) | Last date of submission of completed tender documents | 16-02-2012 up to 3.00 P.M.  |
| g) | Date of issue of Tender                               | 01-02-2012 From 10.30 A.M   |

**NSIC TECHNICAL SERVICES CENTRE  
NATIONAL SMALL INDUSTRIES CORPORATION LTD.**

(A Govt. of India Enterprise)

Sector-B-24. Guindy Industrial Estate, Ekkaduthangal, Chennai – 600 032.

Phone: 22252335/6/7 Fax: 22254500 E Mail: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in) Website: [www.nsic.co.in](http://www.nsic.co.in)

Ref. No: NTSC (C)/EC/02/2011-12

Dated: 01-02-2012

**INSTRUCTIONS TO THE TENDERERS**

The Tender shall be submitted in accordance with these instructions and any tender not conforming thereto is liable to be rejected. These instructions shall form the part of the tender and contract.

1. The tender should be submitted in Two bid system – **Technical Bid** and **Financial Bid** separately in two sealed covers superscribing “TECHNICAL BID for the supply of Electrical items for Test Bench” and “FINANCIAL BID for the supply of Electrical items for Test Bench”. Both envelopes should be kept in a third cover superscribing “**Tender for the supply of Electrical items for Test Bench**”.  
The Technical Bids will be opened at the first instance and evaluated by the Competent Committee or Authority. At the second stage, Financial Bids of the technically qualified Bidders only will be opened for further evaluation and ranking before awarding the contract.
2. Tender Documents may be obtained in person from our office against payment of Rs.500/- by cash or crossed Demand Draft/Pay Order in favour of “**NSIC Ltd. A/c NTSC.**” payable at Chennai and also can be downloaded from our web site [www.nsic.co.in](http://www.nsic.co.in) from 01-02-2012.
3. The tender shall be completed in all respects (**should be signed and dated by the Authorized Signatory in all pages**). The tender received without tender fee and EMD shall be rejected outright.
4. Earnest Money deposit: 5% of the quoted price against each item should be **rounded off** to the **nearest 500 rupees on higher side**. (Example: if calculated **EMD is Rs.501 then Rs.1000/- is to be deposited as EMD against each item**) shall be submitted along with the tender as Earnest Money Deposit by Demand Draft/Pay Order in favour of “**NSIC Ltd A/c NTSC.**” payable at **Chennai**.
5. The Tendering firms/agencies are required to enclose attested photocopies of the following documents, failing which their bids will be summarily/out-rightly rejected:
  - a. Copy of CST/VAT/TIN Registration Certificates;
  - b. Copy of Income Tax Return.

## FORM OF TENDER

To

The General Manager  
NSIC- Technical Services Centre  
Sector B-24, Guindy Industrial Estate  
Ekkaduthangal, Chennai – 600 032

Dear Sir,

Subject: Offer for supply of Electrical items for Test Bench  
Tender No: **NTSC (C)/EC/02/2011-12**

HAVING EXAMINED AND PERUSED THE FOLLOWING DOCUMENTS

1. Notice Inviting Tender
2. Instruction To The Tenderers
3. Form Of Tender
4. Terms & Conditions For supply

I/We hereby submit our quoted rates in the enclosed format as Annexure. The validity of the offer is 30 days from the last date of submission of tenders. Should our tender be accepted I/We agree that: -

1. Earnest Money Deposit shall be retained by NSIC-Technical Services Centre on account of Security Deposit.
2. The tender document alongwith your delivery instructions shall constitute to bind contract between us and NSIC Technical services Centre, Chennai.
3. In the event of failure to deliver the items within the stipulated time of one month in full, liquidated damages at the rate of **1.00 percent per week** of delay with a maximum of **10 percent** will be levied for the delayed supplies.
4. Earnest money will be refunded to us **without any interest thereof, if our tender is not accepted.**

**Enclosed Annexure**

AUTHORISED SIGNATURE  
Seal of the Firm/supplier

**NSIC TECHNICAL SERVICES CENTRE  
NATIONAL SMALL INDUSTRIES CORPORATION LTD.**

(A Govt. of India Enterprise)

Sector-B-24. Guindy Industrial Estate, Ekkaduthangal, Chennai – 600 032.

Phone: 22252335/6/7 Fax: 22254500 E Mail: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in) Website: [www.nsic.co.in](http://www.nsic.co.in)

Ref. No: NTSC (C)/EC/02/2011-12

Dated: 01-02-2012

**COMMERCIAL AND GENERAL TERMS & CONDITIONS**

Subject: Offer for supply of Electrical items for Test Bench  
Tender No: **NTSC (C)/EC/02/2011-12**

Sealed Tenders are hereby invited for supply of Electrical items for Test Bench as per following terms & conditions:

1. Tenderers shall submit their offers in two bid system in sealed cover superscribed as **“Tender for supply of Electrical items for Test Bench”** as explained in **INSTRUCTIONS TO THE TENDERERS** at NSIC Technical Services Centre, **(NTSC)** Chennai on or before **16-02-2012** upto **3.00 P.M.**
2. Tenderers are strictly advised to quote their rates separately for individual items in their Financial Bid. There are four items (Annexure).
3. The Tender should be accompanied with Earnest Money Deposit equivalent to 5% of the quoted price against each item as explained in **INSTRUCTIONS TO THE TENDERERS** and the total of each item's EMD should be deposited in the form of a Demand Draft/Pay Order in favour of **“NSIC Ltd A/c NTSC.”** payable at Chennai. **No Cheque or cash shall be accepted.** EMD should be annexed with the Technical Bid. **The offers without EMD will be rejected.**
4. The validity of the offer shall be **30 days** from the date of award of the order.
5. General Manager, NSIC-TSC, Chennai reserves all the rights to accept or reject any or all the offers. The Centre is also not bound to accept the lowest offer.
6. The offer should be made in the Tender form enclosed and marked as tender No. **NTSC (C)/EC/02/2011-12** dated 01-02-2012.
7. The Tenders will be opened at NTSC-Chennai on **16-02-2012 at 4.00 P.M.** The Tenderers or their authorized representative (One person only) may be present at the time of opening of the tender.
8. The EMD deposited by the successful Tenderer shall be adjusted for the Security Deposit. The EMD of unsuccessful Tenderers will be refunded after issue of order to the successful Tenderer.

- 9 The successful Tenderers shall deliver the items to NTSC- Chennai within three weeks from the date of issue of order. In case the items are not supplied within the stipulated period, the **Security Deposit shall be forfeited.**
10. Payment Terms: 75% of the order value against delivery. Balance amount after installation, commissioning and satisfactory report of working.
11. All the communication shall be addressed to:  
  
**The General Manager,**  
NSIC TECHNICAL SERVICES CENTRE,  
SECTOR B-24, GUINDY INDUSTRIAL ESTATE  
EKKADUTHANGAL, CHENNAI – 600 032.  
TEL: 22252335/6/7 FAX: 22254500  
EMAIL: [ntscche@nsic.co.in](mailto:ntscche@nsic.co.in) Website : [www.nsic.co.in](http://www.nsic.co.in)
12. The decision of the NSIC Technical Services Centre, Chennai will be final and binding on the Tenderers.
13. In the event of any dispute the legal matter shall be subjected to the jurisdiction of Chennai / **Chennai court only.**

| Sl. No.                      | Description  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
|------------------------------|--|----------------|---------------|------------------------|---------------|-------------|-----------|-----------|----------|-----------------------------|------------------|------------------------------|-------------------------------|-----------------|----------------------------|------------------------------|--|------------------------------|-----------|------------------|--------------------------------|-----------------------------|--|-------------------|------------------------|
| 1                            | <p><b>a) Three phase squirrel cage induction motors – two Nos.</b> 5.5 kW / 415 V, 4 pole – make: SIEMENS/ABB/Hindustan motors/kirloskar/any International Standard make<br/>One energy efficient and another Conventional motor. Both the motors should be of high energy efficiency (80% and above for conventional motor and 88% and above for energy efficient motor). The energy efficient motor should conform to applicable international / Indian standards.</p> <p><b>b) Eddy current Retarder Dynamo-meter – one No.</b>, any International Standard make</p> <table border="0"> <tr> <td>Braking Torque</td> <td>74 Nm/7.5 KgM</td> </tr> <tr> <td>Rated absorption Power</td> <td>11 KW / 15 HP</td> </tr> <tr> <td>Rated speed</td> <td>1500 RPM,</td> </tr> <tr> <td>Max speed</td> <td>5000 RPM</td> </tr> <tr> <td>Speed measurement accuracy:</td> <td>1 RPM resolution</td> </tr> <tr> <td>Torque measurement precision</td> <td>±0.5%.(F.S.), 1 Nm Resolution</td> </tr> <tr> <td>Torque sensing:</td> <td>Force sensor reaction type</td> </tr> <tr> <td>Torque sensor specification:</td> <td>Full bridge, 350 Ohms resistance, Strain Gauge type, 10V DC excitation, 2mV/V output</td> </tr> <tr> <td>Torque sensor cell accuracy:</td> <td>class 0.2</td> </tr> <tr> <td>Mode of cooling:</td> <td>Forced air cooled by axial fan</td> </tr> <tr> <td>Direction of axis rotation:</td> <td>Bi-direction – Clockwise &amp; Anticlockwise</td> </tr> <tr> <td>Moment of Inertia</td> <td>0.22 Kg/M<sup>2</sup></td> </tr> </table> <p>Torque calibrating arms</p> <p><b>C) Control panel</b> containing switches / knobs to vary various parameters, like frequency, voltage, dynamometer loading etc with appropriate software for Motor Testing.<br/>Electronic controller for Dynamometer, Load potentiometer, Interlock with cooling fan &amp; Annunciators, wiring, terminals &amp; Mains isolator<br/>Input power (Motor Power Sensor to sense Motor KW – to monitor Motor input power &amp; for calculation of efficiency) &amp; output power, speed, torque, efficiency would be displayed on monitor &amp; stored in table &amp; Graphs in MS Excel format.<br/>Facility to view/print observation tables &amp; Graphs<br/>Facility to save the data in Excel format<br/>Motor speed control, Torque control is by soft Potentiometer with + &amp; - to preset<br/>PC Auto &amp; PC – Manual mode selector Soft push button switch on Monitor screen<br/>Power Analyser to monitor Voltage, current, frequency, input &amp; output power in KVA, KVAR &amp; KW, THD and Power Factor within the accuracy of 0.5%</p> <p><b>d) Laptop</b> (HP/Lenovo/Ace/Dell) loaded with appropriate software with necessary interface &amp; Data acquisition and analysis with graphic output. I/P Power Vs Eff, PF, Current, speed etc. Licensed Windows OS (XP/7), minimum 250GB HD, DDR 4GB, Processor–Core 2 Duo/latest, Monitor–Min.15” &amp; PCI card with necessary Digital &amp; Analogue Input &amp; output with Motor test software.</p> <p><b>e) Test Bed table</b> to mount Dynamo meter &amp; two Motors of 5.5 Kw each, with sliding facility to change the motor for testing one by one.<br/>Cardan Shaft – universal joint with spline to connect Dynamometer to Motor – for height alignments &amp; shaft adaptors to suit Motor shaft diameter.<br/>X Y axis Motor mounting adjustment to accommodate different mountings dimensions of Motor.</p> <p><b>f) Cables &amp; Wires:</b> Cable loom with flexible PVC pipe Shielded Control cables for all type of sensors &amp; dynamometer controller with male female connectors with flexible conduct of length and all types of armoured cables and wires for connection to each others as per requirement with appropriate length &amp; size.</p> | Braking Torque | 74 Nm/7.5 KgM | Rated absorption Power | 11 KW / 15 HP | Rated speed | 1500 RPM, | Max speed | 5000 RPM | Speed measurement accuracy: | 1 RPM resolution | Torque measurement precision | ±0.5%.(F.S.), 1 Nm Resolution | Torque sensing: | Force sensor reaction type | Torque sensor specification: | Full bridge, 350 Ohms resistance, Strain Gauge type, 10V DC excitation, 2mV/V output | Torque sensor cell accuracy: | class 0.2 | Mode of cooling: | Forced air cooled by axial fan | Direction of axis rotation: | Bi-direction – Clockwise & Anticlockwise | Moment of Inertia | 0.22 Kg/M <sup>2</sup> |
| Braking Torque               | 74 Nm/7.5 KgM  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Rated absorption Power       | 11 KW / 15 HP  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Rated speed                  | 1500 RPM,  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Max speed                    | 5000 RPM   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Speed measurement accuracy:  | 1 RPM resolution   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Torque measurement precision | ±0.5%.(F.S.), 1 Nm Resolution  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Torque sensing:              | Force sensor reaction type   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Torque sensor specification: | Full bridge, 350 Ohms resistance, Strain Gauge type, 10V DC excitation, 2mV/V output   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Torque sensor cell accuracy: | class 0.2  |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Mode of cooling:             | Forced air cooled by axial fan   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Direction of axis rotation:  | Bi-direction – Clockwise & Anticlockwise   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |
| Moment of Inertia            | 0.22 Kg/M <sup>2</sup>   |                |               |                        |               |             |           |           |          |                             |                  |                              |                               |                 |                            |                              |  |                              |           |                  |                                |                             |  |                   |                        |

**Note: All the above items should be quoted as one package.  
All equipments should conform to International standards.**