

TENDER

for

Supply, Erection & Commissioning of “Pump Testing Lab facilities”

Tender No. NTSC(C)/EC/LAB(P)-1/14-15

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
Email: ntscche@nsic.co.in

Fax: 044-22254500
Website: www.nsic.co.in

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Dated: - 08/08/2014

INDEX

Sl. No.	Description	Page No.
1	Cover Page	1
2	Index	2
3	Notice Inviting Tender	3
4	Instructions to the Tenderers	4
5	Form of Tender	5
6	Commercial and General Terms & Conditions	6 – 7
7	Annexure – A	8 – 10

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NOTICE INVITING TENDER

Sealed tenders are hereby invited on behalf of the Chief General Manager, NSIC Technical Services Centre (Chennai), Sector B-24, Guindy Industrial Estate Ekkaduthangal, Chennai – 600 032 from the reputed manufacturers/ firms/ companies who are interested for Supply, Erection & Commissioning of Pump testing lab facility as per specifications at Annexure – A, so as to reach to Chief General Manager, NSIC- Technical Services Centre (Chennai), Sector B-24, Guindy Industrial Estate Ekkaduthangal, Chennai – 600 032 upto **11:00 AM. on 01/09/2014.** The details as summarized below:-

a)	Name of the Machines and equipments	As per Annexure-A
b)	Earnest Money Deposit	5% of the quoted price which should be rounded off to the nearest Rs.500 on higher sides. (Example: if calculated EMD is Rs.501 then Rs.1000/- is to be deposited as EMD).
c)	Cost of Tender Document	Rs. 1000/- plus Sale Tax @ 5% (non-refundable)
d)	System of Tender Document	Two bid system – technical bid and financial bid separately in two sealed covers superscribing “ technical bid for supply, erection & commissioning of pump testing lab facility ” and “ financial bid for supply, erection & commissioning of pump testing lab facility ”. both envelopes should be kept in a third cover superscribing “ tender for supply, erection & commissioning of pump testing lab facility ”.
e)	Supply of Machines and Equipments	Two months from the date of awarding the order
f)	Last date of submission of completed tender documents	01/09/2014 upto 11:00 A.M.
g)	Date of issue of Tender	11/08/2014 (to be downloaded from NSIC web site)
h)	Estimated cost of Pump Test facilities	32 Lakhs (inclusive of all taxes, freight etc.)

The other Terms and Conditions applicable to this tender have been incorporated in the tender documents.

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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 as explained in “Notice Inviting Tender” in previous page. The technical bids will be opened at the first instance and evaluated by 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 Document has to be downloaded from web site www.nsic.co.in and the cost of Tender Document should be enclosed with the Tender in the cover of technical Bid by way of Demand Draft/Pay Order in favour of “**NSIC Ltd. A/c NTSC.**” payable at **Chennai**.
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 Earnest Money shall be rejected outright.**
4. Earnest Money deposit: – **5% of the quoted price** as explained in “Notice Inviting Tender” in previous page. EMD should be **rounded off** to the **nearest Rs.500 on higher sides**. (Example: if calculated **EMD is Rs.501** than **Rs.1000/-** is to be deposited as **EMD**).
5. **Tenderer submitting registration certificate issued by NSIC to claim exemption in EMD and Tender document cost will be applicable for those items in which the tenderer are registered. Tenderer has to submit EMD, as explained above, in case the item supplied by him is not mentioned in the registration certificate.**
6. All participant from manufacturers/ firms/ companies are instructed to enclose attested copies of the following documents in Technical Bid cover, failing which their bids will be summarily/ out- rightly rejected:
 - a. Copy of CST/VAT/TIN Registration Certificates
 - b. Copy of Income Tax Return.
 - c. Any other copies of Certificate (BEE/ISI/NABL/DGS&D/NSIC etc.)

FORM OF TENDER

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

Dear Sir,

Subject: Offer for Supply, Erection & Commissioning of Pump Testing Lab facility.

Tender No: NTSC(C)/EC/LAB(P)-1/14-15

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 - A. The validity of the offer is 60 days from the last date of submission of tenders. Should our tender be accepted I/We agree:-

1. A Sum of Rs. _____ (Rupees _____ Only) as Earnest Money Deposit shall be retained by NSIC-Technical Services Centre on account of security deposit.
2. The tender document along with your delivery instructions shall constitute and bind contract between us and NSIC Technical services Centre, Chennai.
3. In the event of failure to deliver the machines/equipments within stipulated time of four months period 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 delayed supply.
4. Earnest money will be refunded to us **without any interest thereof, if our tender is not accepted.**

Enclosed Annexure –A

Authorized Signature
Name of Signatory & Seal of Firm

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Ref. No: - NTSC(C)/EC/LAB(P)-1/14-15

Dated: - 08/08/2014

COMMERCIAL AND GENERAL TERMS & CONDITIONS

Subject: Offer for Supply, Erection & Commissioning of Pump Testing Lab facility
Tender No: NTSC(C)/EC/LAB(P)-1/14-15

Sealed Tenders are hereby invited for Supply, Erection & Commissioning of Pump as per following terms & conditions:

1. Tenderers shall submit their offers in two bid system, in sealed cover superscribed as “**Tender for Supply, Erection & Commissioning of Pump Testing Lab facility**” as explained in the **INSTRUCTION TO THE TENDERERS** at NSIC Technical Service Centre, Chennai on or before **01.09.2014** up to **11:00 AM**.
2. Tenderers are strictly advised to quote their rates for the machines/ equipments as per the specifications furnished in **Annexure – A. Excise Duty, VAT, Insurance, Packing, Transportation charges etc.** whatever applicable should be mentioned clearly.
3. The Tender should be accompanied with the Earnest Money Deposit equivalent to 5% of the quoted price as explained in the **INSTRUCTION TO THE TENDERERS** and the EMD should be deposited in the form of 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 Earnest Money Deposit will be rejected.** Tenderers claiming for exemption of EMD should furnish the applicable documents.
4. The validity of the offer shall be of **60 days** from the last date of submission of the Tender.
5. The Chief 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 and marked as tender No. **NTSC(C)/EC/LAB(P)-1/14-15 Dated: - 08/08/2014.**
7. The tenders will be opened at NTSC-Chennai **on 01.09.2014 at 11.30 AM.** The Tenderers or their authorized representatives (One person only) may be present at the time of opening of the tender.
8. The EMD deposited by the successful Tenderers shall be adjusted for the security deposit. The EMD deposited by the successful Tenderers will be refunded after issue of order to the successful Tenderer.

9. The successful Tenderers shall deliver the items to NTSC- Chennai within four months from the date of issue of order. In case the items are not supplied within the stipulated period, the **Security or Earnest Money Deposited shall be forfeited.**
10. All the machines/ equipments supplied alongwith the hardware and software should be guaranteed for one year from the date of commissioning.
11. The successful tenderer has to provide **pre dispatch inspection** with proper demonstration at their work place before supplying the same.
12. Detailed System Engineering of the equipments should be submitted, by the successful tenderer, comprising of General arrangement drawing, Foundation layout, Wiring diagram and operation cum maintenance manual with spare parts list.
13. Training regarding trouble shooting, system's working principle, use of equipment, general up-keeping etc. should be provided by the successful tenderer.
14. **Tenderers have to enclose, in the technical bid, detailed block diagram clearly explaining the system's operations.**
15. **Detailed information regarding after sales service should be provided.**
16. **Payment terms:** 75% of the order value against receipt of items at our Centre in good condition and the balance amount after installation, commissioning and satisfactory report of working. The Earnest money deposited will be refunded after completion of guarantee period of one year.
Regarding EMD exempted suppliers, 75% of the order value against receipt of items at our Centre in good condition, 20% of the order value after installation, commissioning and satisfactory report of working and the balance 5% after completion of guarantee period of one year.
17. All the communication shall be addressed to:
The Chief General Manager,
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: 22252335/6/7, Fax: 22254500
Email: ntscche@nsic.co.in
18. The decision of the NSIC Technical Services Centre, Chennai will be final and binding on the Tenderers.
19. In the event of any dispute, the legal matter shall be subjected to the jurisdiction of Chennai / **Chennai court only.**

Specification for Pump Testing Lab Facility

OBJECTIVE:			
To set up an automatic pump performance test bench to minimize the human errors & human efforts for accurate measurement in very less time compared with traditional Manual testing method. The capacity of testing set up should be provided from 0.5HP to 3 HP in single phase and from 1 HP to 150 HP in three phase.			
SCOPE OF TESTING:			
- Testing of pump sets from 0.5 HP to 150 HP max. Capacity.		-Delivery size from 1” to 6”.	
-Flow rate range for pump is 30 lpm to 6000 lpm		-Max. Head measurement up to 500 mtrs. (50 Kg./cm ²)	
-Suction (Vacuum) measurement. (1 bar)		-SS Pipe line for delivery of pump to outlet, with valve & flow meter & cam lock couplings for easy installation.	
-RPM measurement upto 3000 RPM			
Suitable Resting Table for Testing of Pumps under IS 9079, 6595(part1) & 8472 to be provided			
Test covered:			
Test of all kinds of pumps should be performed as per Indian Standards i.e. 8034, 14220, 9079, 6595(Part1) & 8472.			
Following parameter should be measured:			
-Single & three phase voltage. (Ph to Nu & Ph. to Ph.)		-Single & three phase ampere. (Per Ph. & Total Average)	
-Single & three phase active, reactive and apparent power. (Per Ph. & Total Average)		-Frequency (Hz) and power factor	
-RPM, %Slip,		-Pressure measurement (upto 50bar.)	
-Flow rate Indicator (Digital O/P)		-Temperature. (Water temp. in water tank) and resistance measurement	
TEST PROCESS:			
Pump test to be controlled by software with help of data acquisition system, as per scope of testing. Test data to be measured by its power analyzer and other instruments. Control panel (includes power analyzer and other instruments) to be equipped with USB/RS-485/RS-232 to computer interface which provide data to PC. Customized software to record test result and generate report according to the scope of testing.			
OUTPUT FROM SOFTWARE: Pump performance report			
Curve for Discharge V/s Head,	Curve for Discharge V/s Current	Curve for Discharge V/s efficiency	Curve for Discharge V/s power
REQUIREMENT FOR TEST BENCH FOR FULLY AUTOMATIC PERFORMANCE TEST OF PUMP SET			
ITEM No. A			
Sl. No.	Description of control panel (branded/standard make)	Qty	Rate
1.	Fully automatic control Panel for Single phase & three phase pump for 0.5 HP to 150 HP (Amp. Capacity: as per system rating requirement) Specifications: <ul style="list-style-type: none"> - Powder coated Panel box. - 1 ph. Starter. (Capacity: 35 Amp. minimum) - 3 Ph. Star delta starter/ DOL. - Capacitor selector switches for Start & Run. Capacitors. - Voltage Up-Down Switches (For dimmer) - Programmable Control card & relay card and data acquisition card for automation. 	01 assemble d set	

	<ul style="list-style-type: none"> - Pressure regulator for auto/ manual function for controlling valve with USB/ RS-485 computer interface. - Digital readout of flow indication with computer interphase. - “Auto tester” software with curve & performance report. 		
2.	<p>Description of power analyzer- (branded/standard make):</p> <p>The following parameters of Single phase & three phase, has to be recorded by Power analyzer with basic accuracy of 0.1% of reading. The analyzers should be capable for measurement of the following parameters of 0.5 HP to 25 HP at no load to full load condition (1 ph. & 3 ph. both) by one, and 15 HP to 150 HP at no load to full load condition (3 ph.) by second.</p> <p>. Power analyzer should be computer interfaced.</p> <ul style="list-style-type: none"> - Single & three phase voltage. (Ph to Nu & Ph. to Ph.) - Single & three phase ampere. (Per Ph. & Average) - Single & three phase active, reactive and apparent power. (Per Ph. & Total) - Frequency (Hz), power factor, RPM, %Slip, CRPM. - Pressure measurement Flow rate Indicator (Digital O/P) - Computer I/F through USB/RS-232. <p>Note:</p> <ul style="list-style-type: none"> a) Current capacity should be as per system rating requirement. b) Power analyzer should be either own make or branded make like Yokagawa, Fluk etc. c) Calibration certificate of the Power analyzer should be submitted from the NABL accredited Lab. 	02 set	
3.	<p>Pressure transmitter (branded/standard make) Range: 10 bar, 30 bar & 60 bar. Over load limit: 3 times. Housing: stainless steel, Basic Accuracy: 0.5% . Display readout should be provided separately or in the above power analyzer</p>	01	
4.	<p>Suction (Vacuum) transmitter (branded/standard make) Range: 1 bar, Absolute. Over load limit: 3 times. Housing: stainless steel, Basic Accuracy: 0.5%. Display readout should be provided separately or in the above power analyzer</p>	01	
5	<p>The following items is to be quoted separately for electromagnetic flow meters for each size separately (branded/standard make) DESCRIPTION : Electromagnetic flow meter with Remote display & converter unit each of following sizes. Flow range upto 6000 LPM. Basic accuracy of 0.5% suitable arrangement should be made for different size of pipe.</p>		
5.1	Size: 25 mm.	01	
5.2	Size: 32 mm.	01	
5.3	Size: 40 mm.	01	
5.4	Size: 50 mm.	01	
5.5	Size: 65 mm.	01	
5.6	Size: 80 mm.	01	
5.7	Size: 100 mm.	01	
5.8	Size: 125 mm.	01	
5.9	Size: 150 mm.	01	

6	The following items is to be quoted separately for automatic valves for each size (branded/standard make) DESCRIPTION: SS ball valve/Gate valve with three phase electrical actuator valve positioner and manual operation. Dual operation(manual and automatic both) Pressure range: 50 Kg/cm ²		
6.1	Size: 1"	01	
6.2	Size: 1.25"	01	
6.3	Size: 1.5"	01	
6.4	Size: 2.0"	01	
6.5	Size: 2.5"	01	
6.6	Size: 3.0"	01	
6.7	Size: 4.0"	01	
6.8	Size: 5.0	01	
6.9	Size: 6.0"	01	
7.	Fabricated resting table for motor and pump(regenerative, mono block and centrifugal) from the 0.5 HP to 25 HP.	01	
8.	Description of piping and fabrication work: The following items is to be quoted separately. Piping for each size should be quoted in per feet (branded/standard make) DESCRIPTION : Piping & fabrication work for testing of all type of pumps. Specification: <ul style="list-style-type: none"> - SS (316) pipe lines for delivery of pump (Total 9 Nos. of pipe lines from 1" to 6" pumps.) - Manual Ball/ Gate valve for each line. (Total 9 valve from 1" to 6") - Cam lock coupling fitted at end of each line. (SS -316) - Flow strainer fitted in each line. - Stand included for remote display of each flow meter. - Flexible pipe fitted at end of each line. - Fabrication work with proper support to remove vibration for each line. Matting flanges, gaskets & nut bolts for each line.		

Note:

- All measuring and sensing instruments to be accompanied. **Calibration Certificate from NABL accredited lab** should be submitted at the time of supply.
- **Item No. A** is considered as **one set** but, the quotation should be submitted separately as per serial and sub serial number.
- The tenderer have to **submit an authorization letter** as a dealer from the principle manufacturer in case he is dealing in the equipment's made by the principle manufacturer.
- The tenderer will be responsible for providing after sale and services for entire system including all parts and equipment's.
- The operating system voltage for single phase is 220/230 Volt and for three phase 400/415 Volt. at 50 Hz.
- Control panel should be well equipped with all the necessary protection system namely:
 - a. Dynamic short circuit protection.
 - b. Under voltage monitoring.
 - c. DC bus over voltage protection.
 - d. Over current protection.
 - e. Over temperature protection.