

TENDER

**FOR
SUPPLY AND INSTALLATION OF Engine Test
Dyno with accessories to test Engine above
42 KW @1500RPM up to 150 KW@8000 RPM
at**

**NSIC TECHNICAL SERVICES CENTRE RAJKOT
The National Small Industries Corporation Limited
(A Government of India Enterprise)
80 Ft. Road, Near Bhavnagar Road Crossing
Aji Industrial Area, Rajkot-360003. (Gujarat)**



**THE NATIONAL SMALL INDUSTRIES
CORPORATION LTD.**

**(A Government of India Enterprise)
80 Ft. Road, Near Bhavnagar Road Crossing
Aji Industrial Area, Rajkot-360003. (Gujarat)**

Tel No. 0281-2387613/2389070
Email- ntscraj@nsic.co.in

Fax No. 0281-2387729
Website-<http://nsic.co.in>

NSIC TECHNICAL SERVICES CENTRE RAJKOT
The National Small Industries Corporation Limited
(A Government of India Enterprise)
80 Ft. Road, Near Bhavnagar Road Crossing
Aji Industrial Area, Rajkot-360003. (Gujrat)
Tel: 0281-2387613/ 2389070/ 2387397/98
Email: ntscraj@nsic.co.in

Ref. : NTSC/RAJ/TENDER/DETL/14-15/01 Date: 13th Jan.2015

M/s. _____

Sub : SUPPLY AND INSTALLATION OF Engine Test Dyno with accessories to test Engine above 42 KW @1500 RPM up to 150 KW@8000 RPM at NSIC TECHNICAL SERVICES CENTRE RAJKOT 80 Ft. Road, Near Bhavnagar Road Crossing Aji Industrial Area, Rajkot-360003. (Gujrat).

Sir,

Tender document in respect of the above mentioned works containing 26 pages as detailed are forwarded herewith. Please note that tender is to be delivered in the office of the Deputy General Manager NSIC TECHNICAL SERVICES CENTRE, 80 Ft. Road, Near Bhavnagar Road Crossing, Aji Industrial Area, Rajkot 360003, up to 3.30 P.M. on 30.01.15.

The Tender should be signed on each page, dated and witnessed in all places provided for in the documents; all other paper should be initialed.

The Tender should be accompanied by Earnest Money Deposit in the form of demand draft/at par Cheque as mentioned in Appendix. Tenders without Earnest Money Deposit shall be summarily rejected. Tender Fee for Rs. 500/-(Non refundable) in the form of Demand Draft/at per cheque in favour of "The National Small Industries Corporation Limited" payable at Rajkot. The tenders will be opened at 4.00 P.M. 30.01.15.

The person, signing the tender on behalf of company/firm or on behalf of another person shall attach with tender a certified copy of proper authority/power of attorney on a non-judicial stamp paper of requisite value duly executed in his favour by such person, company/firm and must state specifically that he has authority to sign such tenders for and on behalf of such person or company/firm as the case may be, and in all matters pertaining to the contract including arbitration clause.

The letter shall form part of the "CONTRACT" and must be signed and returned along with the tender documents.

Yours Faithfully

Encl. 26 pages

**Deputy General Manager,
NSIC Technical SERVICES Centre Rajkot**

Signature of the Contractor

Tender Notice

NSIC TECHNICAL SERVICES CENTRE RAJKOT
The National Small Industries Corporation Limited
(A Government of India Enterprise)
80 Ft. Road, Near Bhavnagar Road Crossing
Aji Industrial Area, Rajkot-360003. (Gujrat)
Tel: 0281-2387613/ 2389070/ 2387397/98
Email: ntsraj@nsic.co.in

Tender no. :NTSC/RAJ/TENDER/DETL/14-15/01 Date: 13 Jan-2015

Subject: SUPPLY AND INSTALLATION OF Engine Test Dyno with accessories to test Engine above 42 KW @1500 RPM up to 150 KW @8000 RPM at NTSC, Rajkot Campus Premises.

We are pleased to invite your offer in two parts viz. (a) Technical and (b) Financial, strictly as per enclosed terms and conditions and instructions to bidders, in sealed covers for the under mentioned plant and machinery / equipment required for supply and installation at NTSC, Rajkot Campus Premises location. One set of equipment's consisting of the following:

Specification

Sr.No	Description & Accessories	Qty	Specification / Range
01	Eddy Current Dynamometer	01	<p>The dynamometer to be capable of absorbing & measuring power in both directions of rotations (Bi-directional), in accordance with its Power and Torque specifications as mentioned below .</p> <p>Max speed 8000 RPM</p> <p>Max power 150 KW @2800-8000 RPM</p> <p>Max Torque 500 Nm @1800-2800 RPM</p> <p>Max Inertia -0.093Kg /M2</p> <p>Power Min 60 KW @1500 RPM</p> <p>Torque Min 410 Nm @1500 RPM</p> <p>2)The dynamometer torque measurement system to be fitted with a high accuracy precision strain gauge load-cell (Sensotronics make) to ensure the torque measurement accuracy better than +/- 0.25 % of the dynamometer maximum Torque capacity</p> <p>3)The dynamometer to be supplied with 60 toothed wheel & non-contact type magnetic pulse pick-up</p>

			<p>sensor (Reputed Make) for measurement of speed. <i>The following in-built features to be provided with the dynamometer as a standard</i></p> <p>a) Inlet water pressure switch, for monitoring the required water pressure supply and achieve trip condition against low water pressure & protection of dynamometer from dry running.</p> <p>b) CR-AL Thermocouple sensor (Blind Temperature Controller Mounted in Control Cabinet) for monitoring loss plate temperature and to achieve trip condition against high temperature than the set limit.</p> <p>c) Electro-less Nickel plating on water passages (groove side) of loss plates to ensure that corrosion does not detract from performance.</p> <p>d) The Dynamometer to be supplied with two half couplings and Grease lubricated shaft bearings.</p> <p>e) Dynamometer Water Requirements</p> <p>Water Pressure at Inlet [BAR] : 1.0</p> <p>Minimum Water Flow Required : 107 LPM</p>
02	Water inlet filter with magnetic separator	01	Filter to be provided in the water inlet passage of Stainless steel wire mesh with filtration up to 500 microns.
03	Weighing System Check Equipment	01	<p>To be provided for carrying out periodic checking of the accuracy of the load cell torque measuring system of the above Dynamometer which will comprises of: -</p> <ul style="list-style-type: none"> - Calibration arm & counter balance arm with rider weight - Weight pan assembly - One set of calibration weights, traceable to national standard
04	Stator Rotor Locking arrangement (For Motor Locked Rotor Test)	01	To be provided on non-driving end to facilitate locked rotor test of electric motors.
05	Cardon shaft as per SAE Std 1410	01	<p>To be provided for connection between Dynamometer & Engine with universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p> <p>Major axial deflections are accommodated by sliding splines in the shaft.</p>

			<p>Flange: Std 1410/1440 Series SAE flange.</p> <p>With universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p>
06	Cardon Shaft as per SAE 1260	01	To be supplied with universal joint at both ends. One end is splined to permit limited adjustment in the length.
07	Adaptor plate	02	To be provided for connection between dynamometer half coupling and cardon shafts as per SAE std 1440 and std 1260
08	Sheet Steel Guard	01	MS fabricated sheet steel guard with thickness of 3-4mm to be provided for safety against rotating assemblies during testing. Pivotal cover and quick release mechanical lock are provided.
09	Dynamometer Control System (Reputed Make)	01	<p>The Controller [12U Cabinet] comprises of following sub-racks.</p> <p>A) Dynamometer Multi Mode Control Unit</p> <ul style="list-style-type: none"> - Pot for variable loading of Engine. - Multi-mode operation push buttons facilitating -Constant Speed - Constant Torque -Open Loop modes of operation. -19" Size of rack type. <p>The controller to be provided with SET OVERSPEED facility, SET RUN MODE Selection and RESET / START & STOP switch.</p> <p>B)Analogue/Digital Speed Indicator & Digital Torque Indicator Rack</p> <ul style="list-style-type: none"> -Accuracy: Analogue speed: $\pm 1.5\%$ of FSD - Digital torque: $\pm 0.25\%$ of FSD ; Digital speed: ± 1 rpm - An Isolator Switch Panel - 2 Nos. Blind Temps. Controllers as inbuilt safety against overheating of loss plates of the dynamometer <p>C) Panel Safety</p> <ul style="list-style-type: none"> - To be considered Surge protection device for arresting input power surge. The device incorporates a base element with remote indication contact and

			<p>protective connectors.</p> <p>- Isolation Transformer to isolate the mains & the internal power supply will be inbuilt in the panel.</p>
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Installation, commissioning & others

Supplier to provide installation materials such as electrical wiring & cables between Dynamometer & Controller, Terminal box, Dynamometer mounting bolts etc.
<p>Supplier to submit total 3 set of documents along with the equipment, covering following:</p> <p>1) Operation cum maintenance manual</p> <p>2) Periodic calibration procedure</p> <p>3) Spare part list</p> <p>4) General arrangement drawing for equipment, including control system wiring diagram, schematic etc.</p>
Calibration certificate from NABL accredited laboratory to be provided for all measuring instruments and equipment as whole as applicable

Note:

The aspects mentioned below must be noted while submitting bids for the above mentioned plant and machinery / equipments:

- a) All machines / equipment should be compatible with 220 V Single Phase, 380-440 V Three Phase - 50 cycles per second supply. Electrical wiring for interconnection of the machines upto main supply wherever necessary should be supplied along with machines.
- b) In case foundation of the machine is required for installation, necessary foundation bolts, pads, washers etc. should be supplied along with foundation drawing.
- c) All machines should be supplied with electrical, raw material handling along with working tools.
- d) List out the technical specification, additional equipment required, if any, for smooth running of the project.

The detailed tender document can be obtained free of cost from Deputy General Manager, NSIC TECHNICAL SERVICES CENTRE RAJKOT at the above address. The tender document can also be downloaded from NSIC website www.nsic.co.in. Any clarification on

technical specifications can be obtained in writing from NSIC TECHNICAL SERVICES CENTRE RAJKOT before tender opening.

Please submit your lowest quotation / offer for the above requirement subject to our terms and conditions. Your offer should be submitted to Deputy General Manager, NSIC TECHNICAL SERVICES CENTRE RAJKOT 80 Ft. Road, Near Bhavnagar Road Crossing, Aji Industrial Area, Rajkot-360003 latest by 30th Jan, 2015 till 3:30 P.M. Offers received after the last date and scheduled time shall not be considered.

The format for technical bid and financial bid shall be as per Annexure-I and Annexure-II respectively. The offer should be submitted with a covering letter as per format at Annexure-III in a **sealed envelope clearly mentioning the above tender number on top of the envelope.**

The technical bid shall be opened on 30th January 2015 at 04:00 P.M. In the presence of authorized representatives of the bidders who may like to be present. The authorized representative should bring authority letter from their principals for attending the bid opening.

Note: The vendor should submit their best price while submitting their bids itself and they will not be allowed to revise the price any time thereafter.

NSIC reserves the right to reject one or all of the bids without assigning any reasons.

KINDLY READ ALL TERMS AND CONDITIONS OF "TENDER DOCUMENT" THOROUGHLY. QUOTATION NOT IN ACCORDANCE WITH THE TERMS AND CONDITIONS IS LIABLE TO BE DISQUALIFIED AND IGNORED.

Deputy General Manager

Important Instructions to bidders for submission of tender

1) Preparation of Bids:

The bids should be prepared in the following manner:-

- a. The Bid shall be neatly arranged, plain and intelligible.
- b. Each page of the bid should be signed by the authorised person. Letter regarding the authorisation of such person should be obtained from the Principal / Manufacturer and enclosed with the bid.
- c. Insertions, postscripts, additions and alterations shall not be recognized, unless confirmed by bidder's signature.
- d. Bids should not contain any terms and conditions, printed or otherwise, which are not applicable to the Bid.
- e. Any conditional bid not adhering to the terms & conditions of the tender shall be rejected.
- f. The bidder should be the Principal / Original manufacturers of plant & machinery/ equipment, failing which the quotation shall not be considered.
- g. The bidders should have executed at least three purchase orders / contracts of equivalent value in the last five years. The bidder is required to submit catalogue of the plant & machinery/ equipment, complete reference of the past supply of equipment for the same or similar specification giving details of customer with name of the contact person, Fax no, phone no, E-mail.
- h. The bidders (originals manufacturers) will have to submit ink-signed offer / bid in original to NSIC TECHNICAL SERVICES CENTRE RAJKOT. **Bids not complying with this condition shall not be considered.**
- i. In the Financial Bid, prices are to be indicated in both figures and words. In case of any discrepancy of value the prices quoted in words shall be considered for evaluation and establishing L1 status.
- j. No price variation clause will be entertained.

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- k. Specifications are the basic essence of the "Product". Mere copying of the tender specifications by the Bidder into their bids shall not make them eligible for consideration. Appropriate and sufficient evidence of conformity by way of data (catalogues etc.) shall be furnished. There should be an item-by-item commentary on the Specifications demonstrating responsiveness of the offered equipment to the specifications.
- l. Bid with any pre-conditions (like conditional discounts) for price are liable to be "Not considered" / "Rejected".

2) Submission of Bids:

- a. Bids must be received by NSIC TECHNICAL SERVICES CENTRE RAJKOT on or before the due date and time at the address specified in the tender document. In the event of the specified date for the submission of bids being declared a holiday for NSIC TECHNICAL SERVICES CENTRE RAJKOT, the bid-closing deadline will stand extended to the next working day up to the same time.
- b. Any bid received by NSIC TECHNICAL SERVICES CENTRE RAJKOT after the deadline for submission of bids, will not be accepted and returned unopened to the bidder.
- c. NSIC TECHNICAL SERVICES CENTRE RAJKOT at its discretion may extend the deadline for the submission of bids if the bid document undergoes changes during the bidding period, in order to give prospective bidders time to take into consideration the amendments while preparing their bids.
- d. In case of receipt of inadequate numbers of bids, NSIC TECHNICAL SERVICES CENTRE RAJKOT may extend the deadline for submission of bids giving opportunity to other bidders to participate in the bidding process to make it competitive.
- e. If the Supplier submits only one envelop / cover containing all the bids or combined bids e.g. techno-commercial bid & price bid together, the bid is liable for rejection.

NOTE: The manufacturers should submit their best price at this stage itself and they will not be allowed to revise the price. Any revision / discount given by manufacturers subsequently will be ignored.

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3) Amendment of Bidding Documents:

- a. At any time prior to the deadline for submission of bids, NSIC TECHNICAL SERVICES CENTRE RAJKOT may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder, modify the bid document.
- b. All prospective bidders who have requested for the bidding document will be notified of the amendment in writing, and such amendments/ modifications will be binding on them.

4) Bid opening and evaluation of Bids:

- a. The technical bids shall be opened on 30th Jan,2015 at 04:00 P.M.
- b. Bidder whose technical bid is qualified based on the eligibility criteria as specified in this tender document will be considered for financial bid evaluation. The date and time of opening of the financial bid will be informed to such bidders.
- c. NSIC TECHNICAL SERVICES CENTRE RAJKOT will open financial bids of only the technically qualified, in the presence of the bidders or their authorised representative who choose to attend the bid opening.
- d. The bidder's authorised representative who attends the bid opening shall sign an attendance register as a proof of having attended the bid opening.
- e. The bidder's name, bid prices, discounts and such other details will be announced at the time of opening of the financial bids.

5) Award of Contract

- a. The financial bids of the technically qualified bidders shall be opened by the constituted committee. Thereafter the committee shall prepare the comparative statement (CST) based on the FOR, NSIC TECHNICAL SERVICES CENTRE RAJKOT price quoted by the bidders. This will facilitate to shortlist the L-1 bidder quoting the lowest price.

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- b. L-1 will be decided on the basis of total value of the bid.
- c. NSIC TECHNICAL SERVICES CENTRE RAJKOT shall award the contract to the eligible bidder whose financial bid has been accepted and determined as the lowest evaluated financial bid.
- d. If more than one bidder happens to quote the same lowest price, NSIC reserves the right to award the contract to any one bidder.
- e. Separate supply order shall be placed for supply and installation of machinery and equipment required for each location at NSIC TECHNICAL SERVICES CENTRE RAJKOT. The bidder shall deposit 'Security Deposit' for Rs. 20,000/- (Rs. Twenty thousand only) for each supply orders placed for different locations.
- f. The successful bidder, on award of contract/order, must send the contract/order acceptance in writing, within 7 days of award of contract/order, failing which the EMD will be forfeited.

6) Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, NSIC TECHNICAL SERVICES CENTRE RAJKOT interpretation of the clauses shall be final and binding on all parties.

7) Earnest Money Deposit:

- a. The units registered with Central Purchase Organization (DGS&D), The National Small Industries Corporation (NSIC) or the concerned Ministry or Department shall be exempted from the payment of Earnest Money as defined under Rule 157 .EMD should be 20,000/- (in words Rupees Twenty- thousand only) by way of Demand Draft (DD) drawn in favour of "The National Small Industries Corporation Limited" payable at Rajkot for one set of goods only (even in case the bidder is quoting for more than one set). No cash / cheque towards EMD shall be

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accepted. The DD for EMD should be placed inside the envelope containing technical bid. The offers without EMD shall be rejected.

- b. The EMD of unsuccessful bidder shall be refunded within 30 days from the award of contract.
- c. No interest will be allowed for earnest money deposited with the Company.
- d. The EMD shall be forfeited:
 - (i) If the bidder withdraws the bid during the period of bid validity specified in the tender.
 - (ii) If the successful bidder fails to furnish the acceptance in writing, within 7 days of award of contract/order.

8) Security Deposit

- a. The EMD of successful bidder shall be kept as 'Security Deposit' for supply of goods against each supply order and shall be released at the time of final payment after successful completion of work.
- b. In case of bidder exempted from payment of EMD (as mentioned in Para 7 a. above), 'Security Deposit' for Rs. 20,000/- by way of demand draft in favour of "The National Small Industries Corporation Limited" payable at Rajkot should be submitted along with order acceptance against each supply order. However, the successful bidder can furnish a Bank Guarantee of Nationalized Bank of equivalent amount in lieu of 'Security Deposit' valid for one year from the date of supply order.

9) Prices:

All items are to be quoted in INR only in the format as per Annexure-II. The price quoted should be inclusive of proper and strong packing, insurance and freight on for NSIC Technical SERVICES Centre, Rajkot basis. The prices should also be inclusive of all taxes and duties as applicable. The price quoted shall be considered firm and no price escalation shall be permitted.

10) Validity of the Quote:

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The validity of quote should be at least six months (180 days) from the closing date of tender. A bid valid for a shorter period shall stand rejected.

NSIC TECHNICAL SERVICES CENTRE RAJKOT may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. A bidder agreeing to the request for extension will not be permitted to modify his bid.

11) Delivery period:

The goods shall be delivered at NSIC Technical SERVICES Centre, Rajkot (or any other place as specified by NSIC Technical SERVICES Centre, Rajkot) within 60 days from the date of award of contract. Part delivery shall not be permitted. Separate dispatch instruction shall be issued after inspection of goods and acceptance thereof by NSIC Technical SERVICES Centre, Rajkot. No other delivery terms shall be acceptable.

12) Taxes / Duties:

- a. The bidders should be registered with sales tax / income tax department of Govt. of India and should hold a valid VAT registration certificate, as applicable.
- b. Sales tax, excise duty, VAT, octroi or any other tax shall be paid on actual as per rule applicable and on production of documentary proof. No tax concession form or proof of shipment of goods shall be issued.

13) Payment terms:

- a. 80% of order value to be released on submission of following documents:
 - i. Signed commercial Invoice-two copies certifying that the goods are exactly as per the purchase order and the specification quoted.
 - ii. One copy of NSIC TECHNICAL SERVICES CENTRE RAJKOT supply order.
 - iii. Proof of delivery of the consignment at NISC Technical SERVICES Centre ,Rajkot
 - iv. Clean report of findings issued by NSIC TECHNICAL SERVICES CENTRE RAJKOT.

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- v. Packing list two copies duly signed.
- b. Balance 20% order value shall be released after successful installation and commissioning of equipment at NSIC Technical SERVICES Centre ,Rajkot

14) Packing & Marking:

Consignment must be packed in proper and strong packing cases, taking all precaution against damage during handling and transportation

Proper marking on the packing cases should be made for smooth handling of consignment. The supplier will be held responsible for the plant and machinery / equipment's not being sufficiently and properly packed and in such eventuality the supplier shall have to transport them by rail, road at their destination, at his expense free from loss or damage.

Every package delivered under our order shall at the expense of the supplier be distinctly marked with description and quantity or contents with the consignee name and address (which shall be notified subsequently) with gross weight and net weight, with the distinctive number and mark which is also to be shown for the purpose of identification on the suppliers packing account.

Each packet shall contain a packing note quoting a number and date of our order and showing its contents in detail.

15) Pre-Shipment Inspection:

The plant and machinery / equipment to be supplied and packing thereof shall be subject to inspection by NSIC TECHNICAL SERVICES CENTRE RAJKOT or third party (name shall be conveyed to the successful bidder) at manufacturer's premises prior to dispatch thereof. Approval and clean report of findings shall be submitted at the time of claiming 80% payment. Machinery & equipment including packing boxes shall be offered by the awarded unit for inspection at least 10 days before the stipulated date of delivery. Deviations, if any pointed out by the visiting inspection team, as mentioned above, shall be corrected and the machinery and equipment as per specification shall be dispatched on or before the contract delivery date.

16) Liquidated damages:

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In the event of delay in supply of the goods within the stipulated period, Liquidated Damages (LD) shall be charged by NSIC TECHNICAL SERVICES CENTRE RAJKOT @ ½% (one-half of one percent) of the total order value per week of delay or part thereof subject to a maximum of 5 (five percent) of the order value. Supplier shall deduct the applicable LD from the first payment while raising the claim for the same.

17) Insurance:

All goods are to be insured for 110% of the FOR value of the goods by successful bidder from the works to NSIC Technical SERVICES Centre, Rajkot.

18) Installation & Commissioning:

- a. The awarded bidders shall have to depute expert(s) for installation & commissioning at site as and when instructed by NSIC TECHNICAL SERVICES CENTRE RAJKOT.
- b. No additional charges shall be payable for installation & commissioning of equipment at site the supplier has to inform in advance about the material handling facilities to be arranged for unloading, successful installation, commissioning, training and pilot production from the machines and equipments supplied.
- c. The supplier will be required to train for at least 7 days the operators as decided by NSIC TECHNICAL SERVICES CENTRE RAJKOT.

19) After Sales SERVICES / Warranties by Suppliers:

The equipment shall be warranted for any manufacturing defect for a period of 18 months from the date of shipment or 12 months from the date of successful completion of installation and commissioning at site, whichever is later. Should any part or parts fail or proved defective within the period specified above, owing to defect in design, material or workmanship, the supplier will have to replace them at the place of installation free of all charges.

During the warranty period, expert(s) shall be deputed at site by the awarded unit whenever found essential and which cannot be undertaken locally or by the NSIC TECHNICAL SERVICES CENTRE RAJKOT experts including rectifying any defect / malfunctioning of plant & machinery. The cost of

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deputation of expert(s) and any other associated expenditure shall be borne by the awarded unit.

20) Technical Documents:

The awarded unit shall provide technical documents like operation and maintenance manual etc. in English language in three copies for each items of equipment. Two copies to go with the consignment, one copy to be forwarded to NSIC TECHNICAL SERVICES CENTRE RAJKOT office.

21) Risk Purchase:

In case of delays in supplies / defective supplies or non-fulfillment of any other terms and conditions given in the Supply Order, NSIC TECHNICAL SERVICES CENTRE RAJKOT may cancel the supply order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier.

In case vendor does not agree to above risk purchase clause, their offer is liable to be rejected. In case any vendor accepts risk purchase clause initially and subsequently declines to honour the term in the eventuality of RISK PURCHASE, they may be banned for business with NSIC TECHNICAL SERVICES CENTRE RAJKOT.

22) Cancellation of Bids

- a. NSIC TECHNICAL SERVICES CENTRE RAJKOT reserves the rights to cancel any bid without assigning any reasons.
- b. NSIC TECHNICAL SERVICES CENTRE RAJKOT reserves the rights to cancel bids and refloat a fresh tender, at any time after opening of the bids, in case it finds the response to its bid are not meeting its requirement. This shall be at the sole discretion of NSIC TECHNICAL SERVICES CENTRE RAJKOT.

23) Blacklisting / Debarring of Firm

- a. Units blacklisted by any Government Departments / PSUs are not eligible to participate in the tender.

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- b. If the unit(s) commits breach of contract, it shall be black listed / debarred for further business with NSIC TECHNICAL SERVICES CENTRE RAJKOT for a declared period.

24) Post Tender Negotiations

- a. NSIC TECHNICAL SERVICES CENTRE RAJKOT reserves the right to conduct negotiations on the 'Price' and 'other commercial terms' with the lowest ranked offered, and
- b. If so required by NSIC TECHNICAL SERVICES CENTRE RAJKOT, supplier may have to share their cost data / costing sheet with NSIC TECHNICAL SERVICES CENTRE RAJKOT.

25) Force Majeure

If at any time during the currency of this contract, the performance in whole or in part, by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events), then provided notice of happening of any such events is given by either party to other within ten days from the date of occurrence thereof, neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

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Annexure-I**Format for technical bid**

Subject : Engine Test Dyno with accessories to test Engine above 42 KW @1500RPM up to 150 KW @8000 RPM

Sr.No	Description & Accessories	Qty.	Compliance (Yes/No)
01	<p>Eddy Current Dynamometer The dynamometer to be capable of absorbing & measuring power in both directions of rotations (Bi-directional), in accordance with its Power and Torque specifications as mentioned below Max power 150 KW @2800-8000 RPM Max Torque 500 Nm @1800-2800 RPM Max Inertia -0.093Kg /Mr² Power Min 60 KW @1500 RPM Torque Min 410 Nm @1500 RPM</p> <p>2)The dynamometer torque measurement system to be fitted with a high accuracy precision strain gauge load-cell (Sensotronics make) ensures the torque measurement accuracy better than +/- 0.25 % of the dynamometer maximum Torque capacity</p> <p>3)The dynamometer to be supplied with 60 toothed wheel & non-contact type magnetic pulse pick-up sensor (Imported Make) for measurement of speed. <i>The following in-built features to be provided with the dynamometer as a standard</i></p> <p>a)Inlet water pressure switch, for monitoring the required water pressure supply and achieve trip condition against low water pressure & protection of dynamometer from dry running.</p> <p>b)CR-AL Thermocouple sensor (Blind Temperature Controller Mounted in Control Cabinet) for monitoring loss plate temperature and to achieve</p>	01	

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	<p>trip condition against high temperature than the set limit.</p> <p>c) Electro-less Nickel plating on water passages (groove side) of loss plates to ensure that corrosion does not detract from performance.</p> <p>d)The Dynamometer to be supplied with two half couplings and Grease lubricated shaft bearings.</p> <p>e) Dynamometer Water Requirements</p> <p>Water Pressure at Inlet [BAR] : 1.0</p> <p>Minimum Water Flow Required : 107 LPM</p>		
02	<p>Water Inlet filter with Magnetic Separator</p> <p>Filter to be provided in the water inlet passage of Stainless steel wire mesh with filtration up to 500 microns. Filter will be supplied in loose with dynamometer, which should be fitted at site, prior to dynamometer inlet connection, on water supply piping.</p>	01Set	
03	<p>Weighing System Check Equipment</p> <p>To be provided for carrying out periodic checking of the accuracy of the load cell torque measuring system of the above Dynamometer, whenever required. It Comprises of: -</p> <ul style="list-style-type: none"> - Calibration arm & counter balance arm with rider weight - Weight pan assembly - One set of calibration weights, traceable to national standard 	01 Set	
04	<p>Stator Rotor Locking attachment (for Motor Locked Rotor Test)</p> <p>To be provided on non-driving end to facilitate locked rotor test of electric motors.</p>	01Set	
05	<p>Cardon Shaft as per SAE std 1410</p> <p>To be provided for connection between Dynamometer & Engine with universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p> <p>Major axial deflections are accommodated by</p>	01Set	

Signature of Bidder
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	<p>sliding splines in the shaft.</p> <p>Flange: Std 1410/1440 Series SAE flange.</p> <p>With universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p>		
06	<p>Cardon Shaft as per SAE std 1260</p> <p>To be supplied with universal joint at both ends. One end is splined to permit limited adjustment in the length.</p>	01Set	
07	<p>Adopter Plates</p> <p>To be provided for connection between dynamometer half coupling and cardon shafts as per SAE std 1440 and std 1260</p>	02 Set	
08	<p>Sheet Steel Guard</p> <p>MS fabricated sheet steel guard with thickness of 3-4mm to be provided for safety against rotating assemblies during testing. Pivotal cover and quick release mechanical lock are provided.</p>	01Set	
09	<p>Dynamometer Control System</p> <p>The Controller [12U Cabinet] comprises of following sub-racks.</p> <p>A) Dynamometer Multi Mode Control Unit</p> <ul style="list-style-type: none"> - Pot for variable loading of Engine. - Multi-mode operation push buttons facilitating -Constant Speed - Constant Torque -Open Loop modes of operation. -19" Size of rack type. <p>The controller to be provided with SET OVERSPEED facility, SET RUN MODE Selection and RESET / START & STOP switch.</p> <p>B)Analogue/Digital Speed Indicator & Digital Torque Indicator Rack</p> <ul style="list-style-type: none"> -Accuracy: Analogue speed: $\pm 1.5\%$ of FSD - Digital torque: $\pm 0.25\%$ of FSD ; Digital speed: ± 1 rpm 	01 Set	

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	<p>- An Isolator Switch Panel</p> <p>- 2 Nos. Blind Temps. Controllers as inbuilt safety against overheating of loss plates of the dynamometer</p> <p>C) Panel Safety</p> <p>- To be considered Surge protection device for arresting input power surge. The device incorporates a base element with remote indication contact and protective connectors.</p> <p>- Isolation Transformer to isolate the mains & the internal power supply will be inbuilt in the panel.</p>		
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Enclosures:

1. Company profile with catalogues.
2. Detailed specification of all items mentioned above.
3. Copy of purchase orders/ contracts of similar nature and size in the last five years.
4. Copy of Pan Card / Sales tax / VAT registration certificate.
5. Copy of SSI / MSME Memorandum part – II / NSIC TECHNICAL SERVICES CENTRE RAJKOT registration certificate, if applicable.
6. Demand draft for Rs. 20,000/- as EMD.
7. Tender fee Rs. 500/- through Demand Draft/At per Cheque
8. Authorization letter in favour of authorized signatory from the bidder.

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Annexure-II**Financial price schedule**

Sl. No.	Engine Test Dyno with accessories to test Engine above 42 KW @1500RPM up to 150 KW@8000 RPM		Price (INR)	Tax & Duties (INR)	Total price (FOR, NTSC Rajkot) (INR)
	Description /Technical specifications with accessories	Qty			
01	<p>The dynamometer to be capable of absorbing & measuring power in both directions of rotations (Bi-directional), in accordance with its Power and Torque specifications as mentioned below</p> <p>Max power 150 KW @2800-8000 RPM</p> <p>Max Torque 500 Nm @1800-2800 RPM</p> <p>Max Inertia -0.093Kg /Mr2</p> <p>Power Min 60 KW @1500 RPM</p>	01			

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	<p>Torque Min 410 Nm @1500 RPM</p> <p>2)The dynamometer torque measurement system to be fitted with a high accuracy precision strain gauge load-cell (Sensotronics make) ensures the torque measurement accuracy better than +/- 0.25 % of the dynamometer maximum Torque capacity</p> <p>3)The dynamometer to be supplied with 60 toothed wheel & non-contact type magnetic pulse pick-up sensor (Imported Make) for measurement of speed. <i>The following in-built features to be provided with the dynamometer as a standard</i></p> <p>a)Inlet water pressure switch, for monitoring the required water pressure supply and achieve trip condition against low water pressure & protection of dynamometer from dry running.</p> <p>b)CR-AL Thermocouple sensor (Blind Temperature Controller Mounted in Control Cabinet) for monitoring loss plate temperature and to achieve trip condition against high temperature than the set limit.</p> <p>c) Electro-less Nickel plating on water passages (groove side) of loss plates to ensure that corrosion does not detract from performance.</p> <p>d)The Dynamometer to be supplied with two half couplings and Grease lubricated shaft bearings.</p> <p>e) Dynamometer Water Requirements</p> <p>Water Pressure at Inlet [BAR] : 1.0</p> <p>Minimum Water Flow Required : 107 LPM</p>				
02	<p>Water Inlet filter with Magnetic Separator</p> <p>Filter to be provided in the water inlet passage of Stainless steel wire mesh with filtration up to 500 microns. Filter will be supplied in loose with dynamometer, which should be fitted at site, prior to dynamometer inlet connection, on water supply piping.</p>	01			
03	<p>Weighing System Check Equipment</p> <p>To be provided for carrying out periodic checking of the accuracy of the load cell torque measuring system of the above Dynamometer, whenever required. It Comprises of: -</p> <p>- Calibration arm & counter balance arm with rider</p>	01			

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	<p>weight</p> <p>- Weight pan assembly</p> <p>- One set of calibration weights, traceable to national standard</p>				
04	<p>Stator Rotor Locking attachment (for Motor Locked Rotor Test)</p> <p>To be provided on non-driving end to facilitate locked rotor test of electric motors.</p>	01			
05	<p>Cardon Shaft as per SAE std 1410</p> <p>To be provided for connection between Dynamometer & Engine with universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p> <p>Major axial deflections are accommodated by sliding splines in the shaft.</p> <p>Flange: Std 1410/1440 Series SAE flange.</p> <p>With universal joints at both ends. One end is splined to permit limited telescopic adjustment in the length.</p>	01			
06	<p>Cardon Shaft Series as per SAE 1260</p> <p>To be supplied with universal joint at both ends. One end is splined to permit limited adjustment in the length.</p>	01			
07	<p>Adopter Plates</p> <p>To be provided for connection between dynamometer half coupling and cardon shafts as per SAE std 1440 and std 1260</p>	02			
08	<p>Sheet Steel Guard</p> <p>MS fabricated sheet steel guard with thickness of 3-4mm to be provided for safety against rotating assemblies during testing. Pivotal cover and quick release mechanical lock are provided.</p>	01			
09	<p>Dynamometer Control System</p> <p>The Controller [12U Cabinet] comprises of following sub-racks.</p> <p>A) Dynamometer Multi Mode Control Unit</p> <p>- Pot for variable loading of Engine.</p>	01			

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	<ul style="list-style-type: none"> - Multi-mode operation push buttons facilitating -Constant Speed - Constant Torque -Open Loop modes of operation. -19" Size of rack type. <p>The controller to be provided with SET OVERSPEED facility, SET RUN MODE Selection and RESET / START & STOP switch.</p> <p>B)Analogue/Digital Speed Indicator & Digital Torque Indicator Rack</p> <ul style="list-style-type: none"> -Accuracy: Analogue speed: $\pm 1.5\%$ of FSD - Digital torque: $\pm 0.25\%$ of FSD ; Digital speed: ± 1 rpm - An Isolator Switch Panel - 2 Nos. Blind Temps. Controllers as inbuilt safety against overheating of loss plates of the dynamometer <p>C) Panel Safety</p> <ul style="list-style-type: none"> - To be considered Surge protection device for arresting input power surge. The device incorporates a base element with remote indication contact and protective connectors. - Isolation Transformer to isolate the mains & the internal power supply will be inbuilt in the panel. 				
<p>Total price FOR, NTSC Rajkot (Sl. No. 1 to 9)</p>					

Lump sum price for one set of machinery & equipment (FOR, NTSC Rajkot): Rs. _____

(In words Rupees: _____)

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Annexure-III

Format of covering letter

Ref. No.:.....

Date:.....

Dy. General Manager
NSIC TECHNICAL SERVICES CENTRE RAJKOT
The National Small Industries Corporation Limited
80 Ft. Road, Near Bhavnagar Road Crossing
Aji Industrial Area, Rajkot-360003. (Gujrat)

Ref.: Tender No-**NTSC/RAJ/TENDER/DETL/14-15/01**
dated 13th Jan, 2015 for SUPPLY AND INSTALLATION OF Engine Test Dyno with
accessories to test Engine above 42 KW @1500RPM up to 150 KW @8000
RPM

Dear Sir,

With reference to above tender notice, we are submitting herewith
our offer for above as per following documents:

1. Technical bid in prescribed format as Annexure-I in sealed envelope no.1 along with enclosures (No financial figures should be mentioned directly or indirectly in technical bid).
2. EMD for Rs. 20,000/- in the form of Demand Draft in favour of "The National Small Industries Corporation Limited" payable at Rajkot along with technical bid in an envelope marked "EMD" placed inside sealed envelope no.1.
3. Financial bid in prescribed format in sealed envelope no.2.
4. Tender Fee for Rs. 500/- in the form of Demand Draft/at par cheque in favour of "The National Small Industries Corporation Limited" payable at Rajkot

We hereby agree to fully abide by all the terms & condition of this tender.

Thanking you,

Yours faithfully,

Name.....
Designation.....

Signature of Bidder
Seal of Bidder