

**Sub : Tender document for Supply, Installation, Commissioning , Training
& Acquaintance of PORTABLE FFT ANALYSER FOR NFT for
BHEL:PSER:KOLKATA**

Dear Sirs,

Sealed offers are invited by the undersigned on behalf of BHARAT HEAVY ELECTRICALS LIMITED for the subject job. Please find enclosed tender documents as per following details:

Tender document no: **PSER:PUR:TSX:025:021 Dated 15/07/2006** comprising of following :

Part – A (i) & (ii)	Pre-Qualification Criteria
Part – B (i) & (ii)	General Conditions of contract (GCC) & Special Conditions of Contract (SCC)
Part – C	Technical Specification
Part – D	Price Schedule
Part – E	No Deviation Format

1.0. Last date of submission of offer is 29/07/2006 (15-00 Hrs). Techno-commercial bid shall be opened at 11.00 hours of next working day.

2.0 The offers shall be sent in sealed envelopes in the manner prescribed below :

- a) Cover - 1 : Containing 'Techno-commercial bid' superscribing "COVER-I, TECHNO-COMMERCIAL BID, Name of the Job , Tender document no and & due date", No Deviation Certificate Sealed and Signed.
- b) Cover - 2 : Containing 'Price bid' superscribing "COVER-II, PRICE BID, **Name of the Job/item**, Tender document no and due date".
- c) Cover - 3 : Containing documents in support of PQ criteria superscribing "COVER NO.-III, PRE-QUALIFICATION CRITERIA, **Name of the Job/ item**, Tender document no, and due date".
- d) Cover No.-4 : Containing the above four sealed covers superscribing "COVER-IV, NAME OF THE JOB, TENDER DOCUMENT NO, DATE & DUE DATE OF SUBMISSION.

3.0 You are specifically requested to note the following and submit your complete offer as per following:

4.1 Cover letter to be placed in cover-I, indicating tender document no; name of the job; references of all subsequent correspondences in connection with the subject job, if any. Also Duly filled-in, signed and stamped on all pages of the following documents is to be placed in Cover-I of offer :

4.1.1 Techno-commercial offer - 2 copies (1 marked as 'original' and the other as 'copy').

4.1.2 Tender document details of this web pages - 1 copy (marked as 'original' and should be stamped & signed on all pages by authorized signatory of the bidder).

4.1.3. Price Schedule of tender document (**un-priced**, but indicating 'quoted/not quoted' as applicable) - 1 copy (marked as 'original').

4.1.4 2 (Two) copies of supporting / supplementary documents other than those already submitted elsewhere in this tender, containing all data sheets, annexures etc. (duly filled- in all respects), as applicable. Please mark enclosure no. / annexure no. corresponding to all enclosures in Cover-I of offer.

- 4.2 Duly filled in price schedule (Quoted rates) to be placed in Cover – II.
- 4.3 Documents in support of fulfillment of pre-qualification criteria to be placed in Cover–III.
- 5.0 BHEL reserves the right to accept or reject any or all offer without assigning any reasons thereof. BHEL also reserve the right to cancel the offer wholly or partly without assigning any reason thereof. BHEL also reserve the right to split the job.
- 6.0 You are free to visit the site and study the prevailing site condition including law & order etc. before quoting.
- 7.0 For any clarification on the tender document, you may seek the same in writing from the office of the undersigned. Such letters should reach the office of the under signed positively by **22/07/2006**.
- 8.0 BHEL **may** decide holding pre-bid conference (PBC) with any/ all the intending bidders. On such communication from BHEL, the bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL.
- 9.0. In the event of any conflict between requirement of any clause of this specification / documents / drawings / data sheets etc or requirements of different codes / standards, specified, the same to be brought to the knowledge of BHEL by you in writing for such clarifications before you submit your bid; otherwise, more stringent requirements as may be interpreted by BHEL shall prevail and shall be binding on you.
- 10.0 Price bids of those bidders will be opened who will be qualified for the subject job on the basis of evaluation of Techno-commercial bids / pre-qualifying criteria and as considered suitable by BHEL.
- 10.0 While BHEL reserves the right to open the price bid of the offers in camera, the date & time to open the tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one authorized representative of the bidder shall be allowed to attend.
- 11.0 BHEL reserves the right to go for REVERSE AUCTIONING. Reverse Auction is the type of auction typically conducted to buy goods / items over Internet in which the lowest price bidders wins. In case, the bidders are willing to know the details about the methodology, they may please contact SDGM/PUR, BHEL, KOLKATA.
- 12.0 Entry tax (if applicable) shall be born by BHEL.
- 13.0 Earnest Monet Deposit (EMD) of Rs.1,00,000=00 either in cash deposited at BHEL office Cash section and receipt enclosed or in the form of crossed Demand Draft / Pay Order (in favour of Bharat Heavy Electricals Limited, payable at Kolkata), shall be enclosed by the bidder along with the offer, failing which the tender is liable for rejection.

One time EMD for Rs. 1,00,000.00 (Rupees One Lakh only) will also be valid for all such jobs. Bidders who have deposited one time EMD of Rs. 1.00 lakh with BHEL:PSER for such job (evidence of deposit must be submitted) will be exempted from submission of EMD with this tender. The followings may be noted:

In case the bidder deposits separate EMD as mentioned above , there will be no change in existing clauses of this tender.

In case of bidders having one time EMD ; one time EMD can not be used for SD purpose. In this case, 50% of security deposit can be deposited by the successful bidder in the form of BG within time specified in the letter of intent and balance 50% of SD shall be deducted from RA bills @ 10% of gross value of RA bills till the full security deposit is made up.

Bank Guarantee shall not be acceptable towards EMD. The EMD shall be enclosed with the Techno-Commercial Bid (Part-A).

14.0 **Security Deposit (SD) Bank Guarantee** : The successful tenderer should furnish a security deposit or bank guarantee from Bank for an amount of 10% of the total value of the order in the form and manner desired by us (as per format) for the satisfactory execution of the same in accordance with the terms and conditions and delivery specified in the order, within 15 days from the date of L.O.I. This BG should remain valid till the date of successful commissioning of the equipment.

15.0 **Performance Bank Guarantee (PBG)** : The successful tenderer should furnish a performance bank guarantee prior to commissioning of the equipment for an amount of 10% of the total order value valid till completion of the guarantee period. SD - BG may be converted into PBG.

All the bidders are requested to note that all the errata / technical clarifications / corrigendum / extension etc shall be published in this web page only. As such, all the bidders are requested to be in continuous touch with this web page.

Thanking you,

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LTD

Manager (Purchase)

**PART-A : PRE-QUALIFICATION CRITERIA FOR Supply, Installation,
Commissioning , Training & Acquaintance of PORTABLE FFT
ANALYSER FOR NFT for BHEL:PSER:KOLKATA**

- BIDDER SHALL EITHER BE AN ORIGINAL EQUIPMENT MANUFACTURER (OEM) OR AUTHORIZED REPRESENTATIVE OF OEM.
- BIDDER SHALL HAVE SERVICING NETWORK WITH REPAIR CENTRE IN INDIA.
- BIDDER SHOULD HAVE AN AVERAGE ANNUAL FINANCIAL TURNOVER DURING THE LAST THREE YEARS, ENDING 31ST MARCH'05 SHOULD BE AT LEAST RS. 18 LACS, AND SHOULD SUBMIT THEIR AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT IN SUPPORT OF THE SAME.

NOTE:

THE BIDDER WHO MEETS THE ABOVE PRE-QUALIFICATION CRITERIA CAN ONLY PARTICIPATE IN THE SUBJECT TENDER.

BHEL RESERVE THE RIGHT TO ACCEPT / CANCEL ANY OR ALL THE OFFERS WITHOUT ASSIGNING ANY REASON THEREOF. BHEL ALSO RESERVES THE RIGHT TO CANCEL THE TENDER WITHOUT ASSIGNING ANY REASON WHATSOEVER.

BIDDERS QUOTING IN INDIAN CURRENCY (INR) ONLY SHALL BE QUALIFIED

PART – B (I) : GENERAL CONDITIONS OF CONTRACT (GCC)

SL. NO.	BHEL STANDARD TERMS	Supplier confirmation
01	Our requirement is for capital use and will be used at PSER HQ / KOLKATA. Offers are invited to submit in two-parts. <u>Part-I : TECHNICAL-CUM-COMMERCIAL AND UN PRICED BID :</u> Consisting of complete technical details, catalogues, drawings and all commercial terms. (Money values shall not be indicated i.e. un price bid). Following formats are to be filled and submitted in a single cover super scribing as Technical - cum - Commercial and Un Priced Bid, Tender Enquiry No. and Due Date. (i) Technical Specification (Catalogues to be enclosed if any) (ii) BHEL Standard Terms & Conditions. (iii) Un Price Bid (iv) Confirmation of pre-qualification criteria (to be downloaded from our BHEL Web Site i.e. www.bhel.com or www.jantermanter.com). <u>Part-II : PRICE BID</u> Price to be indicated in the format enclosed. (Any preconditions for price will not be accepted and the tender will be rejected). The Technical -Cum-Commercial offer will be opened first, discussed, finalized and only then the price bid of technically acceptable offers will be opened. Tenders will be received up to 15.00 Hours on the said due date. Offers should be submitted in Duplicate. <u>If the vendor submits offer i.e. Technical & Price bid together in single envelope, the offer will be rejected.</u>	
02	If any vendor sought to quote through their agents "They have to inform to BHEL in advance, before opening date. Other wise the offer will be treated as Unsolicited Offer and same will not be opened".	
03	BHEL keeps its right to reject / load any offer which is having deviations to BHEL Specifications, Standard Terms & Conditions. All the bidders shall submit their offers only by filling the original BHEL tender documents. No other offer will be entertained. In case of Technical-Cum-Commercial bid, copy of the price bid has to be used to indicate commercial terms without price.	
04	The equipment offered shall be strictly conforming to the specification and for complete unit.	
05	No offer for individual accessories or part machinery will be accepted.	

SL. NO.	BHEL STANDARD TERMS	Supplier confirmation
06	Terms of payment : a. 90% within 30 days on submission of invoice along with materials receipted challan. b. 10% within 30 days ON successful completion of training, certified by DGM/TSX of PSER:HQ. c. No advance shall be paid. Payment shall be paid in INR only.	
07	Warranty : Warranty will be for engineering, materials used, design and stipulated performance of the equipment supplied and will remain valid for a period of 12 months from the date of installation/ commissioning. In case of any defect arising out of above, supplier shall replenish the component / assembly, free of cost.	
08	Delivery : We expect delivery of the item within 12 Weeks from placement of P.O., however, bidder to submit exact delivery period in techno-commercial bid as it attracts penalty / LD.	
09	TERMINATION CLAUSES: (i) BHEL has a right to cancel the order for delay in supply beyond penalty period without any monetary or legal obligations. (ii) Obtaining the Export / Import License, if any required is the responsibility of the supplier. In case of delay in supplying the equipment in time, due to this reason, BHEL has a right to cancel the order without any monetary / legal obligation. To this extent supplier has to give the confirmation.	
10	Liquidated Damage (LD) : It is clearly understood among the parties to the contract that the delivery of the goods specified in the purchase order should be made within the time limit prescribed. Where the seller supplies or dispatches the goods beyond the delivery period specified, the purchaser will have no obligation to accept the goods. If accepted liquidated damages at the rate of ½% (half percent) of the value of goods (Basic price) in arrears per week at the discretion of the purchaser, subject to a maximum of 10% (ten percent) of basic price, will be levied without prejudice to any other relief or compensation due to the purchase under any other condition to the contract.	
11	The sealed tenders superscribing tender number and due date should be addressed to MANAGER / PUR, Bharat Heavy Electricals Limited, PSER, DJ-9/1, SALT LAKE. SECTOR-II, KOLKATA - 700 091, India.	
12	Inspection : BHEL will have the option to inspect with conducting of Load/Overload Test etc. the equipment at supplier's works before delivery. The final inspection / performance checking will however be carried out at our site. Bidder must submit quality plan within one month from the date of LOI / PO, to BHEL for its approval.	
13	Supplier must submit with their offer list of customers (with their full address and their purchase reference number) to whom they have supplied similar machine in the past five years. The year of supply should also be indicated.	

SL. NO.	BHEL STANDARD TERMS	Supplier confirmation
14	The quotation should be valid at least for a period of 90 days from the tender due date of submission (extended, if any). Price Variation Clause will not be entertained	
15	Force Majeure : The vendor shall be subject to force majeure clause defined as under : This force majeure is herein defined as any cause which is beyond the control of the tenderer which they would not have foreseen or with a reasonable amount of diligence could not have foreseen and which subsequently affect the performance of the contract such as SRCC (strike riot and civil commotion), earthquake, flood, acts of god, acts of any government, domestic or foreign including but not limited to war. The tenderer shall not be liable for delay in performing his obligation resulting from any force majeure clause as referred to and/or defined above. The date of completion will be subject to hereinafter provided be extended by a reasonable time even though such cause may occur after tenderer's performance of his obligation has been delayed for other causes.	
16	Arbitration : In the event of any dispute or difference arising between the parties to this contract regarding execution of the same or their respective rights and liabilities there under, the same shall except as otherwise expressly provided therein, be referred to the arbitration of sole arbitration of General Manager, BHEL, PSER, Kolkata or any other person nominated by him and provisions of the "The Arbitration and Conciliation Act ,1996" of India or any statutory notification or re-enactment therefore and rules framed there under from time to time shall apply to such arbitrations. The decision of arbitrator shall be binding both on seller and purchaser. The venue of arbitration shall invariably be Kolkata, India.	
17	Jurisdiction : All disputes or differences arising under out of or in connection with the purchase order shall be subject to the exclusive jurisdiction of court at Kolkata.	
18	Risk Purchase : Alternatively, the purchaser at his option, will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore. The seller shall be liable for any loss which the purchaser may sustain by reason of such risk purchase in addition of LD at the rate mentioned in LD clause.	

SL. NO.	BHEL STANDARD TERMS	Supplier confirmation
19	General : i) The Consignee for the equipment will be " AGM or DGM/TSX, BHEL:PSER:HQ:KOLKATA , BHEL BHAWAN, SECTOR II , BLOCK DJ 9/1, KARUNAMOYEE, SALT LAKE, KOLKATA – 91. ii) All documents / correspondences must bear the Tender no. / Purchase Order No. & Date.	
20	The purchase preference to Govt. undertakings shall be given as per the guide lines of Government of India.	
21	Bank Guarantee : Non submission of 10% BG will attract 10% loading on the offers.	
22	Penalty Clause : Non acceptance of penalty clause will attract maximum 10% loading on the offer and accordingly proportionate percentage will be loaded for accepting less percentage of penalty clause. Ex : If the supplier has accepted for maximum 5% penalty clause, then balance 5% will be loaded.	
23	For all other Terms & Conditions, if the offer is not confirming to the same, BHEL at its discretion shall load the same and the loading pattern shall be intimated to the bidders before price bid opening. However BHEL reserves the right to cancel a bid in case of non-acceptance of any terms and conditions finally arrived before price bid opening.	
	Note : The offers not complying the above Terms & Conditions will not be accepted.	

Note :

01. In case of any conflict / inconsistency in any clause of the tender or between various sections of the tender, bidder should bring the same in writing to BHEL for clarification before submission of the bid, failing which the most stringent interpretation of the clause in favour of BHEL shall be adopted and the same shall be binding to the bidder.
02. Any deviation sought by the bidder should be indicated in the techno-commercial offer.
- 03. Bidder should write "accepted" in the column "supplier confirmation" for each clause.**

**PART – B (II) : SPECIAL CONDITIONS OF CONTRACT (SCC) FOR Rotary
Pulverised Fuel Sampler Kit**

The following items to be furnished /Supplied/Confirmed by the Vendor at the time of delivery of the materials/MMDs

CERTIFICATES:-

The Bidder Shall provide

- Valid Calibration Certificate/Test Certificate from the OEM showing the test results/calibration results.
- Operation Manual:- To be provided by Supplier/OEM in original (OEM COPY).
- Warranty /Guarantee Certificate:- To be provided by the Supplier/OEM.
- Certificate of NEWNESS to be provided by Supplier/OEM

ACCESSORIES:-

All necessary probes, accessories, CD's , RS 232 Interface facility (IF Any) to be supplied with the equipment.

INSPECTION & DEMONSTRATION :-

To be done at BHEL-PSER (HQ) as per convenience or nature of instrument to be inspected in presence of BHEL's Engineer and Vendor's representative.

TRAINING:

Training will be imparted to Two BHEL Engineers for at least two man days any where in India /BHEL premises (As decided by the suitable vendor for effective operation of the machine.

DELIVERY:-

All to be Delivered at BHEL-PSER/Kolkata (HQ) –Salt Lake-BHEL Bhawan

**PART – C:
(TECHNICAL SPECIFICATION)**

“PORTABLE FFT ANALYSER FOR NFT”

Features	Our requirement	Party's offer yes/No
Input:	MIN No of channel: 01 (one) for data signal input, and One EXCLUSIVE SPEED INPUT CHANNEL. The instrumented impact hammer may be connected to speed channel during NFT for taking transfer function. The instrumented hammer is to be supplied by the party.	
Facility required	Instrument must be capable of Conducting “BUMP TEST/ single shot FFT/ Natural Frequency Test WITHOUT and WITH supplied IMPACT HAMMER.	
Connector:	Either through TNC / BNC connector or equivalent connector having BNC interface. If BNC connectors are not provided with the instrument, suitable interface arrangements for connection of BNC connectors with the instrument input are to be provided free of cost..	
Tacho Input	Either through own photoelectric probe or any photoelectric probe having 1 TTL O/P. One speed PU, cables of 10m length , reflecting tapes and the PU holding device near the rotating shaft is to be supplied by the party as a part of mandatory supply.	
Integrator:	One AND Two (Velocity & Displacement) for accelerometer input. That means with the use of one standard pickup (type selected by the party) instrument should be capable of measuring displacement, velocity and acceleration as per our requirement. Two no. of standard PU with magnetic base (as selected by the party) with 10m length cable is to be supplied by the party.	
DISPLAY:	Acceleration, displacement & velocity with Overall value, Phase with 1X value , RPM and FFT as per our requirement.	
COMPUTER INTERFACE	A suitable interface (required cable & software) with computer/laptop for unloading and printing of data including FFT spectrum is to be supplied by the party.. If this is not a part of standard supply, then price will be loaded accordingly. The required computer/laptop will not be in the scope of party for this purpose.	
Min No of lines:	400 (min)	
Full scale range	From Min 1 HZ to at least 10 KHZ	
RPM:	Keyboard, DC transducer or Tacho based	
Valid range:	100 to 15000 RPM for relative measurement.	
Trigger function:	On signal: Free run, Positive or negative slope	
Memory for storing data	Min 2MB. If the standard memory is not of 2MB size, party can supply additional card facility for this.	
Display unit	LCD display.	
Power supply:	Re-chargeable battery. Charger for input of 210V ac is to be supplied by vendor	
LCD size	Min 2 inch	

Instrument must have Curser marking facilities on the spectrum achieved through bump test, both in horizontal and vertical axis and indication of the value for the same on the screen.	
Capable of taking inputs from acceleration, velocity and displacement pickup, both from the pickups supplied by the party and pickup supplied by any other manufacturer, for which the sensitivity can be changed as per requirement of external pickup	
Display Gain adjustment on screen in amplitude axis and zoom facility in frequency axis on FFT mode.	
Optional item : Facility for bode plots .. Party to quote separate prices for either one or for all options given below which is applicable to their equipment (a) in built facility (b) a separate software which will be loaded in the instrument accordingly and (c) a necessary software and the required laptop with cables ..	
Stand Alone : Equipment will be stand alone equipment and should run and analyse data without any help of any laptop or computer (except the bode plot and printing facility, if required)	

Special pick ups required	Party's offer yes/No
One no sensing pick up , which will be used for NFT, (range 2Hz to 10KHz) must be with suitable magnetic base The weight of PU should be less than 10 gms (without magnet) and must be either of piezoelectric accelerometer type or of ICP type. The pickup output combination are as : (a) With the combination of piezoelectric accelerometer pickup with single channel charge amplifier Or ICP pickup with single channel power supply unit along with necessary magnetic base. The weight of PU must be less than 10.0 gms. (b) The output of the PU/charge amplifier/power supply is required to be in mv /micron or mv/mm/sec form through BNC connector output. (c) The supply of the charge amplifier/power supply unit , must be either from in-built cell or from 210V,ac source. (d) The length of the total cable to be supplied must be minimum of 10m. (e) This PU should be capable for being used with some other standard instrument. (f) For price comparison of anyone of above two combinations will be treated as one unit.	
Three sensing pick ups , which will be used for Hydro machines (range 1.0 Hz to 5.0KHz) , must be with suitable very strong magnetic base . The weight of PU should be less than 20 gms (without magnet) and must be of piezoelectric accelerometer type or of ICP type. The pickup output combination are as : (a) With the combination of three piezoelectric accelerometer pickups with three single channel charge amplifiers Or three ICP pickups with three single channel power supply unit along with necessary three strong magnetic bases (b) The output of the PU/charge amplifier/power supply is required to be in mv/micron or mv/mm/sec form through BNC connector output. (c) The supply of the charge amplifier/power supply unit , must be either from in-built cell or from 210V,ac source (d) Three sets of cable are to be supplied by the party and the length of each cable from the instrument to be used to the PU through charge amplifiers / power supply unit must be minimum of 15m. (e) This PU should be capable for being used with some other standard instrument.	

(f) For price comparison of anyone of above two combinations will be treated as one unit.	
NOTE: If the OEM does not have these four special pickups manufactured by them (except the normal pick up supplied by them with the main equipment) , then the OEM can take these additional pickups , charger amplifiers/power supply units and cables for each pickup , from other manufacturer for which the main equipment supplier will stand granted for performance and connectivity issues .	
OTHERS : 1. Calibration certificate from ISO accredited lab for each sensors and main eqpt. is to be supplied. 2. The instrument must have CE mark 3. The must have a self test facility 4. Suitable hard carrying case, standard & optional accessories are to be listed & quoted separately indicating clearly the items covered under the standard package 5. The supplier must be an OEM or authorised representative of OEM. 6. A Service centre must be available in India for which the OEM to take the responsibility in case of any problem. 7. Commissioning responsibility will lie with the supplier. 8. The list of standard items , optional items and additional items are to be listed separately with detail price quotation.	

PART – D**PRICE SCHEDULE FORMAT FOR Supply, Installation, Commissioning ,
Training & Acquaintance of PORTABLE FFT ANALYSER FOR NFT
for BHEL:PSER:KOLKATA****A) EQUIPMENT PRICE**

01. Basic price :
02. Packing & forwarding charges :
03. Excise Duty (@ _____ %) of basic price :
04. Sales Tax / VAT (@ _____ %) of basic price :
(VAT REGISTRATION NO.)
05. Transit Insurance Charges :
06. Any other charges :
07. **TOTAL PRICE (FOR BHEL/KOLKATAOFFICE)** (Summation of 01 to 06)

SL	DESCRIPTION	QTY		
			UNIT PRICE FOR BHEL/KOLKATA OFFICE (all inclusive)	TOTAL PRICE
1	PORTABLE FFT ANALYSER FOR NFT	01 No.		

Total price for MULTIPOINT ROTARY SAMPLER – AIR FUEL RATIO SAMPLER
including freight charge for **EHQ/ KOLKATA :Rs.**

(Rupees.....)

Signature of the bidder with seal & date

PART-E

NO DEVIATION CERTIFICATE

REF: ENQUIRY NO. PSER:PUR:TSX:025:021 Dated 15/07/2006

Certified that we have gone through each and every terms and conditions mentioned in the enquiry (Terms and conditions) and offer our unqualified acceptance of the same.

It is also confirmed that the price has been quoted in the format received with the enquiry.

Any deviation found subsequently at any time during execution of order shall be treated null and void.

(Signature of bidder)
with Seal