



UNIT'S ADDRESS:

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[illegible]

1. Vendor must submit complete information against clause no. 13.0 (Qualifying Condition). The offer meeting this clause would only be processed.

2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor in COPY OF THIS SPECIFICATION ONLY and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.

[illegible]

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|----------------------------------|--------------------------------------|
| NAME & ADDRESS OF THE SUPPLIER : | NAME & ADDRESS OF THE INDIAN AGENT : |
|----------------------------------|--------------------------------------|

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| TELEPHONE NOS.: | |
| TELEPHONE NOS.: | |

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| FAX NOS.: | |
| FAX NOS.: | |

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| E-MAIL ADDRESS : | |
| E-MAIL ADDRESS : | |

SCOPE: SUPPLY AND COMMISSIONING OF SHOCK PULSE ANALYSER WITH SPECIFICATIONS AS BELOW

| S. NO. | DESCRIPTION FOR BHEL REQUIREMENT | SPECIFIED / TO BE CONFIRMED BY | OFFERED | DEVIATIONS | REMARKS |
|--------|--|--|-------------------|------------|---------|
| 1.0 | PURPOSE & WORKPEICE MATERIAL | | | | |
| 1.1 | Purpose: Shock pulse analyser is required for bearing condition monitoring and vibration , Temperature , AC current, RPM measurement of Motors, Generatores and Alternators. | Vendor to note | | | |
| 1.2 | Job to be tested :Motors , Generators and alternators. | Vendor to note | | | |
| 1.3 | Quantity = 1 nos. | Vendor to note | | | |
| 2.0 | SPECIFICATIONS (MINIMUM REQUIREMENTS) | | | | |
| 2.1 | ANALYSER | | | | |
| | Parameter Specification | Range /Value | | | |
| 2.1.1 | Instrument size | 300*150*60 mm or less | Vendor to confirm | | |
| 2.1.2 | Weight | 1000gms approx. | Vendor to confirm | | |
| 2.1.3 | Keypad | Good quality Key pad or touch screen | Vendor to confirm | | |
| 2.1.4 | General features | Language selection , battery test charging status, continuous reading ,idle power off,adjustable backlight/contrast. | Vendor to confirm | | |
| 2.1.5 | Display | LCD / LED | Vendor to confirm | | |
| 2.1.6 | Power supply | Rechargeable battery / battery pack. | Vendor to confirm | | |
| 2.1.7 | Battery power | For 8 hour or more hours normal use | Vendor to confirm | | |
| 2.1.8 | Temperature rage for instrument | 00 to 50° C or better | Vendor to confirm | | |
| 2.1.9 | Memory | Having capacity to store at least 100 readings. | Vendor to confirm | | |

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|--------|----------------------------------|-------------------------------------|--------------------------------|---------|------------|---------|
| 2.2 | Shock pulse transducer | | | | | |
| 2.2.1 | Transducer Type | Shock Pulse transducer | Vendor to confirm | | | |
| 2.2.2 | Range | -19 dB to 99dB or Better | Vendor to confirm | | | |
| 2.2.3 | Temp range for transducer | 00 to 80 ° C or better | Vendor to confirm | | | |
| 2.2.4 | Resolution | 1 dBsv or better | Vendor to confirm | | | |
| 2.3 | Vibration Transducer | | | | | |
| 2.3.1 | Type | Piezo Electric Accelerometer | Vendor to confirm | | | |
| 2.3.2 | Sensitivity | 100mV/g or better | Vendor to confirm | | | |
| 2.3.3 | Frequency range | 3-999 Hz | Vendor to confirm | | | |
| 2.3.4 | Temp Range | 00 to 80 ° C or better | Vendor to confirm | | | |
| 2.4 | Vibration measurement range | | | | | |
| 2.4.1 | Displacement range | 10 to 999 micron or better | Vendor to confirm | | | |
| 2.4.2 | Resolution | 1 micron or better | Vendor to confirm | | | |
| 2.4.3 | Velocity range | 1 to 49.9 mm/sec true RMS or better | Vendor to Confirm | | | |
| 2.4.4 | Resolution | 0.1 mm/sec | Vendor to confirm | | | |
| 2.4.5 | Acceleration range | 0.1 to 20 g | Vendor to confirm | | | |
| 2.4.6 | Resolution | 0.01 g | Vendor to confirm | | | |
| 2.5 | AC current probe assembly | | | | | |
| 2.5.1 | Probe | Clamp type | Vendor to confirm | | | |
| 2.5.2 | Range | 0 to 600 AMP | Vendor to confirm | | | |
| 2.5.3 | Resolution | 1 Amp | Vendor to confirm | | | |
| 2.6 | Temperature probe assembly | | | | | |

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| 2.6.1 | Probe | Non contact | Vendor to confirm | | | |
| 2.6.2 | Range | 0 to 250 °C ✓ | Vendor to Confirm | | | |
| 2.6.3 | Resolution | 1 °C ✓ | Vendor to Confirm | | | |
| 2.7 | RPM probe assembly | | | | | |
| 2.7.1 | Probe | Non contact | Vendor to confirm | | | |
| 2.7.2 | Range | 10 TO 10000 or better. ✓ | Vendor to confirm | | | |
| 2.7.3 | Resolution | 1 RPM ✓ | Vendor to confirm | | | |
| 2.8 | Bearing condition monitoring display | | | | | |
| 2.8.1 | LR | Numeric Value | Vendor to confirm | | | |
| 2.8.2 | HR | Numeric Value | Vendor to confirm | | | |
| 2.8.3 | CONDITION | Green/Yellow/Red | Vendor to confirm | | | |
| 2.8.4 | LUB | Numeric Value | Vendor to confirm | | | |
| 2.8.5 | CODE | A/B/C/D | Vendor to confirm | | | |
| 2.9 | Power supply requirement: The equipment shall be 230V AC , 50Hz mains operated and also with chargeable battery . Charger to be provided alongwith. | | Vendor to confirm | | | |
| 2.10 | Data logging :Appropriate accessories and software for data logging . | | Vendor to confirm | | | |
| 3.0 | ACCESSORIES | | | | | |

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| 3.1 | Measuring Leads: (1) Two nos Shock pulse transducer assembly. (2) Two nos vibration transducer assembly. (3) Two nos chargers leads (4). One no RPM probe assembly (5). Two nos Temperature probe assembly (6). Two nos AC current probe assembly. Any other accessory required for AC current, temp, vibration, RPM measurement and bearing condition monitoring to be supplied along with meter. | Vendor to specify & submit | | | |
| 4.0 | AMBIENT CONDITIONS: | Vendor to confirm | | | |
| 4.1 | Total System and all supplied items should work trouble free and efficiently under Operating Temperature: 1 °C to 45 °C & RH 10% to 90%. | Vendor to submit | | | |
| 5.0 | DOCUMENTATION : | | | | |
| 5.1 | Instruction manual : one copy in hard form and one copy in soft form | Vendor to confirm | | | |
| 5.2 | Guarantee/warranty Certificate : One set | Vendor to confirm | | | |
| 5.3 | Calibration certificate to be submitted from laboratory having traceability with / national /international calibration agency : One set . | Vendor to confirm | | | |
| 6.0 | TRAINING: | | | | |
| 6.1 | Training to BHEL testing engineer and maintenance person should be provided at BHEL, Bhopal in the area of (a) Use of all equipment features, supplied accessories etc. | Vendor to confirm | | | |
| 7.0 | CRITERIA FOR DESPATCH CLEARANCE: | | | | |
| 7.1 | Vendor to submit: - Test / calibration reports (on final equipment including accessories) carried out at supplier's works/calibration agency to ensure meeting cl. 2 of this spec. If the above documents are found in order BHEL will issue dispatch clearance. | Vendor to confirm | | | |
| 8.0 | INSTALLATION & COMMISSIONING | | | | |

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| 8.1 | Supplier to take full responsibility for carrying out entire installation and commissioning of the equipment. Commissioning to be done in presence of technical expert. | Vendor to confirm | | | |
| 8.2 | Successful testing of two BHEL machines by the supplier at BHEL Bhopal and demonstration of all the features of the instruments shall form part of the commissioning activity. | Vendor to confirm | | | |
| 8.3 | All tools, required for commissioning of the system within stipulated time, shall be brought by the supplier on returnable basis. | Vendor to confirm | | | |
| 8.4 | Time required for delivery, installation and Commissioning shall be submitted along with the offer. | Vendor to submit | | | |
| 9.0 | ACCEPTANCE CRITERIA: | | | | |
| 9.1 | Successful operation of supplied equipment upto rated parameters on two machines provided by BHEL at BHEL works bhopal for measurements and demonstration by actual use of the supplied equipment and its accessories. | Vendor to confirm | | | |
| 10.0 | PACKING: | | | | |
| 10.1 | Air worthy/Sea worthy / rigid packing for all items of complete system and Accessories to avoid any damage/loss in transit. | Vendor to confirm | | | |
| 11.0 | GUARANTEE : | | | | |
| 11.1 | 12 months from the date of commissioning of the system. | Vendor to confirm | | | |
| 12.0 | GENERAL : The vendor should submit the following information along with offer: | | | | |
| 12.1 | Equipment Model and Make. | Vendor to submit | | | |
| 12.2 | Detailed catalogues, sketch/ photographs of the meter and accessories/ attachments should be submitted with the offer. | Vendor to submit | | | |

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| 12.3 | Vendor to submit, along with offer, the reference list of customers where similar equipment have been supplied mentioning the customer, Model, major specifications of the supplied item, Year of Supply etc. | Vendor to submit | | | |
| 12.4 | Total weight of the equipment | Vendor to submit | | | |
| 13.0 | QUALIFYING CONDITIONS : | | | | |
| 13.1 | The supplier should either be an Original Equipment Manufacturer (OEM) or an authorised dealer of the OEM for the offered equipment. Dealers have to submit along with the offer, a valid Certificate of Authorization from OEM for the equipment, along with declaration for support from OEM for commissioning, after sales service & necessary spares. | Vendor to submit | | | |
| 13.2 | The dealer or its OEM must have supplied and commissioned at least one equipment (Model may be different however meeting minimum requirements of cl 2.0) in the past seven years (on the date of opening of Tender). Supporting PO & copy to be submitted along with offer. | Vendor to submit | | | |
| 13.3 | Vendor has to submit:- One copy of Purchase Order in name of OEM or Dealer/Vendor for equipment supplied & Performance certificate from the customers regarding satisfactory performance of the equipment supplied to them vide the Purchase Order no. showing minimum one year satisfactory performance. | Vendor to submit | | | |
| 13.4 | BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false/incorrect, the offer shall be rejected. | Vendor to note | | | |