

INDEX

Section-I	Instructions to tenderers with addendum / corrigendum	For E-Tendering
Section-II	General Conditions of Contract with addendum / corrigendum.	
Section-III	Technical Specification for Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS)	
Schedule-I	Schedule of Requirement	
Schedule-II	P. V. Formula	NA
Schedule-III	Details of Standards.	
Schedule-III A	Pre Qualification Requirement (PQR)	
Schedule-III B	Bank Guarantee Form	NA
Schedule-IV	Price Schedule (BOQ)	Online
Schedule IV A	Details of tendered quantity, quantity offered along with justification with reference to qualifying Requirement.	The Bidder is required to justify quantity offered as per qualifying Requirement.
Schedule V	Departure from Guaranteed Technical Particulars.	
Schedule V A	Guaranteed Technical Particulars of Semiautomatic Test Bench	
Schedule VI A	Departure from the requirement of Technical Specification.	
Schedule VI B	Departure from commercial terms & conditions of specification	
Schedule VII	List of Past supplies.	
Schedule VII A	C.A. Certificate for Quantity Justification	
Schedule VIII	Delivery schedule.	
Schedule IX	List of equipment & technical hands available with the tendering firm.	
General	Amendments in ITB & GCC	
Appendix-A	Performa for Bank Guarantee in lieu of Bid Security	

Note: The bidders, in their own interest are requested to read very carefully Section-I (Instruction to Bidders), Section-II (General Condition of Contract) & Section-III (Technical Specification) before filling the bid. The Bid documents can be downloaded from website of Jodhpur Discom www.jdvvn.com & <http://eproc.rajasthan.gov.in> & can be uploaded on the website <http://eproc.rajasthan.gov.in>. No hard copy of the bidding documents will be provided to the bidders through this office. In case of any discrepancy found in the bidding documents downloaded from the website and appended with the bid (as a bid document) and the original copy of such document available in the office of Superintending Engineer (MM&C), Jodhpur Discom, Jodhpur then the copy available with Superintending Engineer (MM&C), Jodhpur Discom, Jodhpur will be considered as final document for all purposes. The proof of depositing the cost of Bid document, Bid Security and tender processing fee be furnished upto 5:00 PM of one day prior to the date of tender opening in the manner prescribed in bid document.

**Two Part Bid**

JODHPUR VIDYUT VITRAN NIGAM LIMITED
OFFICE OF THE SUPERINTENDING ENGINEER (MM&C)
NEW POWER HOUSE INDUSTRIAL AREA, JODHPUR.
TELEPHONE: 0291-2742223 / FAX: - 0291-2746539

**Specification No. JdVVNL/SE/MM&C/TN-1376 UNIVERSAL PORTABLE ELECTRONIC REFERENCE
SUB-STANDARD METER (UNIVERSAL ERSS)**

Tenders are hereby invited in e-tender system for purchase of Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS).

Tenders are to be submitted online in electronic format on website <http://eproc.rajasthan.gov.in>.
The details are as under-

S.N	Name of Item	Quantity
a)	Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS)	10 Nos.

NIT No.	TN-1376
Last date for receipt of tenders	19.12.2017 upto 12:00PM
Date & time of tender opening	19.12.2017 at 3:00 PM
Bid security to be deposited	i) General Bidder : Rs 1,22,113.00 ii) Sick Unit : Rs 61,056.00 iii) SSI unit of Rajasthan: Rs30,528.00 *
Cost of the specification	Rs 2,950.00 (non-refundable)
Tender processing Fee	Rs 1,000.00 (non-refundable)
Validity	120 Days after the date of opening of Techno – Commercial Bid

***In case SSI unit of Rajasthan quotes the less than the tendered quantity , then they are required to furnish Bid security @ 0.5% of the value of the quantity offered by them, failing which bid shall be considered non-responsive.**

The micro , small & Medium Scale Industries of Rajasthan and sick Industries , other than Small Scale Industries , whose cases are pending before the Board of Industrial and Financial Reconstruction (BIFR) shall furnish self attested documentary evidence duly attested by notary to claim the above.

IMPORTANT DATES

S.N.	Events	Date & Time	Location
1.	Last Date of downloading of tender specifications	Up to 18 .12.2017 (06:00 PM)	www.jdvvn.com & http://www.eproc.rajasthan.gov.in
2.	Last Date of Deposit of cost of Tender Specifications, Processing fee & Bid security	Up to 18 .12.2017 (4:00 PM)	Office of Sr. A.O (Cash & CPC), JdVVNL , New Power House, Industrial Area, Jodhpur
3.	Last Date & time of submission of electronic bid	Up to 19.12.2017 (12:00 PM)	http://www.eproc.rajasthan.gov.in
4.	Opening of Technical Bid	19.12.2017(3:00 PM)	http://www.eproc.rajasthan.gov.in
5.	Opening of Price Bid	To be intimated separately to the qualified bidders	http://www.eproc.rajasthan.gov.in



SECTION-III

SUPPLY OF UNIVERSAL PORTABLE ELECTRONIC REFERENCE SUB-STANDARD ENERGY METER (UNIVERSAL ERSS) CAPABLE OF TESTING OF HT THREE PHASE CT OPERATED ENERGY METERS, LT SINGLE PHASE AND THREE PHASE WHOLE CURRENT AS WELL AS CT OPERATED ENERGY METERS, AT SITE/ LABORATORY TN-1376.

3.01 GENERAL

This specification covers the general and standards requirements, technical data, design, engineering, manufacturing, assembly, inspection and testing at manufacturers' work, supply and delivery at stores of universal portable Electronic Reference Sub-Standards meter (ERSS) with complete accessories of accuracy class 0.1 for measuring in the range of 1 mA to 12 Amps in direct mode and of accuracy class 0.2S via split core transformers/ clamp-on CT (current circuits) in the range of 10 mA to 100 Amps (minimum) at site as well as in Laboratory for active, reactive and apparent energy.

3.02 SCHEDULE OF REQUIREMENT

The approximate requirement of Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS) is **10** Nos. The requirement is tentative and it may increase/decrease as per requirement of the purchaser.

3.03 SCOPE

3.03.1 A portable, universal type, light-weight, electronic, precision portable energy meter testing equipment which shall be capable of testing of all types of LT single phase 2 wire, 3 phase 3 wire/ 4 wire and HT 3 phase 3 wire/ 4 wire, whole current static as well as electro mechanical and CT operated static as well as electromechanical energy meters in the range of 1 mA to 12 Amps in direct mode and via core transformers/ clamp-on CT (current circuits) in the range of 10 mA to 100 Amps (minimum) at lab as well as at site.

3.03.2 The ERSS must have micro-processor unit with software support suitable for on line testing of all types of energy meters described in clause 3.1 above at site having memory and capability of communication with the base computer/ laptop. Computer software should be such that final data be converted for further processing to generate inputs and reports.

3.03.3 The scope of the ERSS meter is not limited to following type of meters but it should be capable of:

3.03.3.1 Testing electronic meters/ electro mechanical energy meters of any latest version including but not limited to the following types:

- i. Ferraris (Induction) Meters with rotating disc.
- ii. Static Meters with flashing pulse output of LCD/LED.
- iii. Single Phase Active, Apparent and Reactive Energy Meters
- iv. Three Phase Active, Apparent and Reactive Energy Meters
- v. Maximum Demand Meters, **AND**

3.03.3.2 Performing the following functions:

- i. Verification of meters circuit connections using vectorial displays.
- ii. Harmonic Analysis up to 30th harmonics i.e the harmonic along with angle for each frequency and time domain with % distortion of each frequency.

3.03.4 The ERSS meters quoted and supplied shall be completed with all parts and accessories which are useful and necessary for its efficient electrical and mechanical safe operation and as such parts are deemed to be within the scope of the supply whether specifically mentioned or not.

3.04 APPLICATION

- 3.04.1 Universal ERSS meters shall be suitable for use with phantom load at Meter Lab/ Site even at consumer's load and loading conditions for testing of LT single phase 2 wire, HT/LT 3 phase 3 wire or 4 wire Energy Meters static as well as E/M and shall be capable to measure the system parameters and to verify the accuracy of the energy meters in the laboratory and at site without disconnecting consumer supply in direct mode as well as when used with the clamp-on CT.
- 3.04.2 The Universal ERSS meters shall have feature to monitor the quality of power based on IEC-61000:4:3 standard.
- 3.04.3 The Universal ERSS meters shall have inbuilt memory / removable compact flash memory to store consumer information at site.
- 3.04.4 The Universal ERSS meters shall be able to record special attributive tests/checks like: Meter seal, Terminal Block Seal, Phase Sequence, Pulse output, Meter Display or User defined, to be performed and save for a particular installation, in addition to other mandatory tests.
- 3.04.5 The Universal ERSS meters shall have provision to preload consumer information for selected consumer to allocate the save database to measured results.

3.05 CLIMATIC CONDITIONS :

The equipment to be supplied against this specification should be capable of performing and maintaining the required accuracy for satisfactory continuous operation under all tropical conditions as mentioned below:

- | | | |
|----|--|--------------|
| a) | Maximum ambient air temperature | 60 Deg. C |
| b) | Minimum ambient temperature | (-) 5 Deg. C |
| c) | Maximum ambient air temperature in shade | 50 Deg. C |
| d) | Average daily ambient air temperature | 40 Deg. C |

e)	Maximum relative humidity	95%
f)	No. of months of tropical monsoon condition	4 months
g)	Maximum altitude above sea level	1000 Meters
h)	Average rain fall	10 cms. to 100 cms.
i)	Maximum wind pressure	200 Kg/ Sq. meter.
j)	Isoceranic level (days/year)	40
k)	Seismic level (Horizontal Acceleration)	0.30 g.
l)	Permitted noise level	45 db.

3.06 STANDARDS APPLICABLE

3.06.1 Unless otherwise specified elsewhere in this specification, The ERSS meter shall conform in all respects including performance and testing of thereof to the following Indian/ International Standards to be read with up to date and latest amendments/revisions thereof:

S.No.	Standard No.	Title
1	IS: 12346/1999	Testing equipment for AC electrical energy meters.
2	IS-15707	Indian standard on testing, evaluation, installation and maintenance of ac electricity meters-code of practice.
3	IEC– 62052-11:2003	Electricity metering equipment (AC) – General requirements, tests and test conditions-Part 11- Metering Equipments.
4	IEC– 61000-4-5	Electromagnetic compatibility, Testing & Measurement techniques, Surge Immunity test.
5	IS: 9000 With latest amendments	Basic Environmental Testing Procedures for Electronic & Electrical items.
6	IS/IEC : 60529/2001 With latest amendments	Protection against ingress of dust, moisture and vermin.
7	IS 14697- 1999 With latest amendments	Specification for AC static transformer operated Watthour and VAR – Hour meters, class 0.5S/0.2S.
8	IEC-60687-2000 With latest amendments	AC static Watthour meters for active energy, class 0.2S
9	IEC 62053-21	Electricity metering equipment (AC)-Particular requirements-part 21, static Meters for active Energy, Class 0.5.
10	IS: 13779/1999	AC Static Watthour Meters, Class 1 and 2
11	IS: 13010/2002	AC Watthour Meters, Class 0.5, 1 and 2
12	IS: 11426 With latest amendments	Alternating Current Precision Kilowatt-hour Meters of Glass 0.5 for Testing Purposes

3.06.2 The sub standard testing meter shall also confirm to IS: 12346/ 1999 & IEC: 736/1982 with latest amendments.

3.06.3 Equipment conforming to other internationally accepted standards, which ensure equal or higher degree of quality than the standards mentioned above shall also,

be acceptable. In the case of Bidders who wish to offer material conforming to the other standards salient points of difference between standards adopted and the specified standards shall be clearly brought out in the schedule of deviation. Copy of such standards with authentic English translations shall invariably be furnished along with the offer. In case of any conflict or discrepancy the order of precedence shall be (I) IS (ii) IEC (iii) other International standards, read with latest amendments. In case of any difference between the provisions of aforesaid standards and the provisions of this specification, the provisions contained in this specification shall prevail.

3.07 SYSTEM TECHNICAL DATA

The ERSS meter shall be suitable to test energy meters under the following conditions.

S.No	Particulars	For HT Application	For LT Application	
			Three Phase Meter	Single Phase Meter
1.	Supply Voltage	110 +/- 30% (phase to phase) for 3 wire and 110V/ $\sqrt{3}$ +/- 30% for 4 wire (phase to artificial neutral/ star point)	415 +/- 30% (phase to phase) for 3 phase 3 wire and 415V/ $\sqrt{3}$ +/- 30% for 4 wire	240V \pm 30% (phase to neutral)
2.	Frequency	45 Hz to 55 Hz	45 Hz to 55 Hz	45 Hz to 55 Hz
3.	Power Factor range	Zero Lag -Unity - Zero Lead	Zero Lag -Unity - Zero Lead	Zero Lag -Unity - Zero Lead
4.	Working range	1 mA to 12 Amp.	10 mA to 100 A (minimum)	10 mA to 100 A (minimum)
5.	Energy Recording	Total Energy	Total Energy	Total Energy

3.08 AUXILIARY POWER SOURCE & POWER CONSUMPTION

The power consumption of the Portable Universal ERSS meter at reference voltage, frequency, temperature and rated current shall not be more than 50VA under simultaneous burden on all the phases. The apparent power consumption of the Universal ERSS meter shall not be more than 2 VA per phase in current circuit (with or without CT) and 10 VA per phase in voltage circuit. The unit can be powered either from the measuring circuit or from an auxiliary single phase supply.

3.09 DISPLAY

The Universal ERSS meter shall have high resolution LCD/ TFT display with graphical capabilities along with back lit. The size of display should be suitable for displaying the vector diagram, wave form & harmonics display and it should be clearly readable and legible. The display to be STN (Super Twisted Nematic) type construction. The parameters to be displayed should be selectable through front panel switch. The Reference Standard Meter shall display the following parameters:

- Time
- Date
- Instantaneous per phase voltage(s) for 4 wire and line voltage(s) for 3 wire.
- Instantaneous per phase line current(s).
- Total Active (Fundamental + Harmonics) Power, Reactive and Apparent

Power per phase and total (derived from vectorial summation of total active power and lagging reactive power).

- Instantaneous per phase power factor in lag/ lead derived from division of total active power and apparent power of single phase.
- Instantaneous total power factor lag/ lead derived from division of total active power and apparent power.
- Instantaneous Frequency.
- Phase Sequence.
- Total Active (Fundamental + Harmonics), Reactive (for lag + lead) and Apparent three phase energies.
- Continuous update of total active, reactive (for lag + lead) and apparent energies on display.
- Harmonic Distortion per phase up to 30th harmonic.
- Total Active, Reactive and Apparent power due to each harmonics.
- Phase angle between voltages
- Phase angle between voltage and current
- Waveforms of voltage and currents of each phase
- Voltage and Current vectors
- Power Vectors
- Error in %

3.10 MEMORY

3.10.1 The Universal ERSS meters shall have the facility to store minimum 400 test results along with following instantaneous parameters-

- Instantaneous voltage & line current of each phase.
- Angel between voltage & current
- Power – Active, Reactive & Apparent per phase & total
- Voltage & Current Vectors
- Power Vector
- Power factor per phase & Total
- Total Harmonic distortion of V & I per phase
- Results of normal test / Error of MUT in percentage (results of active energy and reactive energy)
- Energy logged/ recorded by ERSS during test
- Test duration in hour, minute and seconds (with date & time of commencement of test and completion)
- Serial no. reference meter
- Serial No. of meter under test (MUT), connected CT/PT ratio
- MUT description, connected CT/PT ratio
- Meter constant of MUT
- No. revolution/ pulses for which test is being carried out
- Measuring mode/ Test configuration
- Consumer identification i.e. consumer name & address and account number
- Operator name or ID

3.10.2 The ERSS meter shall have memory to record the test date and time. The memory shall be inbuilt memory / removable compact flash memory to store consumer information at site. The data up to at least 400 tests, shall be stored in meter memory in FIFO manner (and not block method) and give flashing alarm when 90% of memory is used and these can be down loaded to computer using communication port (RS232 or USB), in of case inbuilt memory, so that print outs of test results can be taken out with compatible software. Test data stored in the memory of the reference meter shall not be lost by roll over mode but after the memory is exhausted it should flash the message on the LCD/ TFT display or it should have some other arrangement for such indication. The offered equipment shall have facility of data analysis.

3.11 DISPLAY RESOLUTIONS

The minimum resolution for various parameters shall be as follows:

1.	Voltage with resolution	0.00 Volt
2.	Current with resolution	0.000 Amp
3.	Frequency Measurement with resolution	0.00 Hz
4.	Power Factor with resolution	0.000 for all ranges
5.	Instantaneous Load (KW/ KVAh/ KVA)	0.000
6.	Energy Measurement with resolution (Wh/ VARh/ Vah)	0.000 for all ranges (minimum)
7.	Percentage Error Resolution	00.00
8.	Polarity/ connection of system	Indication of correct/ error
9.	Indication of utilization of the memory	To be provided

3.12 ACCURACY REQUIREMENT

The accuracy class of the Universal ERSS meters shall be **0.1 in direct mode** and **0.2s with clamp on CT** for HT/ LT consumers under all conditions of testing at site/ lab with either in direct mode or with clamp on CT mode. The accuracy of the universal ERSS shall be sufficient in any condition for testing KWh, KVAh and KVAh parts of the energy meters of class 1.0 conforming to IS:13779, IS:13010 or IEC:61036, in case of LT meters and the energy meters of class 0.5s conforming to IS:14697 or IEC:60687 for HT meters.

3.13 MEASUREMENT MODE

The Universal ERSS shall have the following measurement mode to test LT & HT CT operated meters and direct connected (whole current) type meters.

(a) Direct Mode :

The provision shall be made for testing of HT & LT CT operated energy meters using phantom load at meter testing lab as well as at site without use of clamp on CTs i.e. with direct mode in 1 mA to 12 Amp. Range confirming to class 0.1.

(b) Clamp-On (Split core current transformers) Mode :

Three clamp-on type split core error compensated current transformers (CTs) for 10 mA to 100 Amps. Confirming to class 0.2s shall be provided along with equipment to test direct connected whole current energy meters without disconnecting them from the circuit.

Additional clamp on error compensated CTs to measure primary current 50Amp. to 400 Amps. Capacity conforming to accuracy class not more than 0.5s suitable shall be supplied as per the requirement.

The maximum clamping capacity of Clamp On CT shall be at least 52 mm.

The measuring mode i.e. (a) & (b) above shall be selectable by using keyboard provide on the equipment.

The CTs should not saturate upto 150% of the highest rated current i.e. if 150% of highest rated current is applied for 30 minutes. The Universal ERSS meter should not get damaged & after restoration of the normal conditions, it should continue to measure correctly within respective accuracy class.

3.14 OPERATING MODE**a) Manual Mode :**

The equipment shall have facilities to test in manual mode using snap switch along with detachable lead as well as inbuilt snap switch to start and stop the test.

b) Auto Mode :

A scanner shall be provide along with the equipment to test electromechanical meters by sensing the rotor mark and static (electronic) meters by sensing the LED/ LCD pulses. **The scanner shall be provide with preferably vacuum type fixing arrangement or any other arrangement suitable to test the meter in laboratory as well as at site.** Scanner should be able to read correctly even in case of its alignment is deviating upto on angle of 15 Deg. of the axes of optical port.

3.15 CONSTRUCTIONAL FEATURES AND GENERAL REQUIREMENTS

- 3.15.1 Alpha- Numeric key board for entering consumer particulars, meter make and serial number, meter constant, test revolutions or pulses and operating the equipment software program.
- 3.15.2 Scanner/Optical sensor head along with detachable lead to be used to count revolutions of the disc in Ferraris wheel meters and LED pulses in static meters as well as for LCD pulses in static meters (optional).
- 3.15.3 Snap switch along with detachable lead to be used as an alternative to scanner/sensor head.
- 3.15.4 Articulating sensor head clamp to hold the scanner properly in front of the LED/ LCD output or revolving disc.

- 3.15.5 Electronic compensated clamp-on CTs which enable the testing without isolating or interrupting the supply of the consumer. The equipment shall have facility to interchange the clamp on CT without affecting the accuracy.
- 3.15.6 Voltage leads with connector stricks/ any other suitable clamping arrangement with insulated leads.
- 3.15.7 Indication LED/ LCD on screen to indicate that ERSS is in correct active mode.
- 3.15.8 Display of vector diagram for analysis of mains conditions and meter connections.
- 3.15.9 Universal ERSS meters shall be capable of indication display for the following conditions.
- Missing Potential.
 - Missing Current.
 - Reverse current if any current is reverse.
 - Phase sequence if forward or reverse.
 - Over Current.
 - Over Voltage.
 - Wiring/ correct association of voltage and current.
 - Detection of circuit connection faults.
- 3.15.10 The universal ERSS meter shall have two outputs-
- A test output in the form of frequency on BNC socket/ blinking LED for its own calibration.
 - Facility shall be provided to switch on & off the source for carrying out the dial test.
- 3.15.11 Self diagnostic feature LCD/ LED test is required to be provided on ERSS meter's display to indicate the healthiness of all segments of LCD/LED display.
- 3.15.12 The universal ERSS shall have facility to power up from both measuring circuit and auxiliary single phase supply of the range from 55 V to 260 V, 47 to 63 Hz.
- 3.15.13 The unit shall have provision of battery backup for data storage and it shall be made functional on giving supply of 240 volts AC between phase to neutral for downloading the data to PC/ Laptop.
- 3.15.14 The ERSS meter shall have suitable provision to prevent stopping of meter by using external magnets i.e. shall not be adversely affected by influence of external magnetic field. The meter shall comply requirement specified in CBIP publication-304.
- 3.15.15 The ERSS meter shall measure and display a comprehensive analysis of three phase system showing instantaneous and integrated values of
- True RMS value for each voltage and current inputs.
 - Measurement of 30th harmonics with display of effective active, reactive and apparent power due to each harmonic.
- 3.15.16 It should be possible to input external CT and PT ratios, i.e. measured parameters will be then shown as primary values.
- 3.15.17 The choice for following visual display to give a graphical analysis of the system under test shall be provide-
- Vectorial display of system parameters.
 - Waveform display of voltage & current.
 - Frequency spectrum display in Lin, Log or relation mode.
- 3.15.18 Auto range of current and voltage inputs shall be provided. (Optional and shall be preferable if there is no price difference while evaluating the offer).

- 3.15.19 The ERSS meter shall display the error(s) if the meter under test automatically.
- 3.15.20 The ERSS meter shall have facility of a built in interface to an external printer.
- 3.15.21 The ERSS meter shall be packed in an ergonomically and aesthetically designed instrument case which can withstand the usual handling of field personnel and normal transportation.
- 3.15.22 All the cords/ connectors/ accessories supplied along with the instruments must conform to IEC-1010 and the international standards of safety. Adequate built in features to protect the instrument itself from overvoltage shall be provided.
- 3.15.23 The ERSS meter shall have ASCII or similar support i.e. provision for converting data into ASCII or other popular and commonly available computer software programs such that the data can be integrated with the meter management system of the utility for ensuring error test record an periodical meter testing.
- 3.15.24 Latest state of art technology for obtaining sustained accuracy, flawless, long lasting service. It should be rugged enough to undergo handling in field conditions while being carried from place to place. It should therefore be convenient to carry and immune to vibrations or shocks due to transportation or handling. It should also be immune to external electrical and magnetic fields.
- 3.15.25 The ERSS meter should also ensure:
- Personal safety against electrical shock.
 - Personal safety against effect of excessive temperature.
 - Protection against spreading of fire.
 - Protection against fraud etc.
 - All parts vulnerable to corrosion should be given protective coating, which should not be liable to damage or lost due to normal handling.
 - Should be low weight compact and of small size.
 - Protection against penetration of solid objects dust and water (degree of protection shall be IP-40).
- 3.15.26 The ERSS meter should have back space facility.
- 3.15.27 Facility to test on line LT-CTs for CT ratio and phase error measurement. Facility to test PT ratio & phase error of 33 KV and 11 KV combined CT-PT sets. The ERSS shall also perform burden measurements of installed CT/ PT at running load of the consumer (the prices of equipments/ features may be quoted separately).

3.16 NAME PLATE DATA AND MARKING

The equipment will exhibit the Nameplate (Metallic) at the appropriate place. Words "JdVVNL", Serial Number of the equipment along with date of manufacturing as well as other technical details shall invariably be mentioned on the equipment as well as on the hand bag.

3.17 SOFTWARE

- 3.17.1 Each Universal ERSS meter shall be supplied along with Base Computer Software. The software shall be suitable for downloading the test result into compatible PC/ Laptop using serial interface data transfer (USB port / RS232

- port, USB port will be preferred). Alternatively the equipment shall be compatible to printer. The software shall have facility to generate the test report for individual testing and summary report of all test reports.
- 3.17.2 The software shall have the facility to upload customer information, site information and special attributive tests information into the memory of the ERSS from its database.
- 3.17.3 The offered software shall have facility to convert all stored test results in ASCII file format or similar non-editable format as required.
- 3.17.4 The offered software shall be user friendly & menu driven. The supplier shall impart necessary training regarding installation and use of the above software.

3.18 ACCESSORIES

Each Universal ERSS meter shall be supplied along with following accessories:

- 3.18.1 One common optical sensor (scanning head) for automatic testing, which can be used to sense disc revolutions in electromechanical meters as well as indicating LED's/ LCD's in static meters including clamp on devise and connection cable and scanning head carriage.
- 3.18.2 Mounting arrangement (clamp) for the optical sensor.
- 3.18.3 One set of 3 piece error compensated Clamp on CTs for on-line testing.
- 3.18.4 One set of voltage leads (4 nos.) with insulated clips.
- 3.18.5 One set of Current leads (6 nos.) to connect the equipment in direct mode.
- 3.18.6 Communication cord with USB/ RS232 connector to retrieve stored data from the equipment and download the same to a PC/ Laptop.
- 3.18.7 Snap switch along with detachable laed as well as in built snap switch.
- 3.18.8 Operating manual in English.
- 3.18.9 One adopter set with omega clip.
- 3.18.10 One head switch.
- 3.18.11 One mains cable.
- 3.18.12 One standard calibration report.
- 3.18.13 Data down load software to read out the module for transfer and presentation of data.
- 3.18.14 One set of 3 piece error compensated clamp on CTs for measurement of current up to 400 Amp, complete with connection cable.
- 3.18.15 Cable for self calibration along with BNC terminal on both sides.
- 3.18.16 A set of clips/ connectors as following:
- Cable adopter/ connection pins 10 Nos.
 - Voltage adopters 04 Nos.
 - Banana clips (straight) 06 Nos.
 - Banana Clips (bended) 04 Nos.
 - Crocodile Clips 04 Nos.
 - U clips 06 Nos.
- 3.18.17 Any other accessories which may be required for complete and successful utilization of the equipment as per this specification shall be supplied.

3.19 INTERFACE

The Universal ERSS meter shall have following interface provisions:

- Scanner which can sense a blinking pulses / rotor mark.
- USB/ RS 232 port for downloading test result in PC/ Laptop.
- High resolution electrical pulse output to allow testing of this universal ERSS against reference standard of higher accuracy.
- Data storage on removable compact flash memory card or by any suitable means.
- Facility to perform dial test in auto mode.
- Provision to print test result on Portable printer (optional).

Note: The optical scanner head should be capable to evaluate the error through calibrating pulses output of electronic meter & red/ black mark on the rotor disc of electromechanical meter.

3.20 CIRCUIT PROTECTION

Adequate protection fuses should be provided in the unit for current circuit(s).

3.21 SHOCK AND VIBRATION PROTECTION :

The equipment must be immune to impact of vibration and dumping due to transport. It shall be within the limit specified in IS:14697 or IEC:60687.

3.22 ELECTROMAGNETIC COMPATIBILITY AND INTERFERENCE REQUIREMENT

- 3.22.1 The Universal ERSS meter will be required to work in the field where Stray Electromagnetic Disturbances or Electro Static Discharges may influence the ERSS. Similarly, the field generated by the ERSS may influence the meter under test. The composition of the ERSS should, therefore, be such that it's functioning is immune to these forces of external origin and it does not create electromagnetic field, which affects the working or the meteorological functioning of the meter under test.
- 3.22.2 The equipment shall be fully protected against electromagnetic interference introduced through the connection cable, through capacitive or inductive coupling or by radiated electromagnetic interference. The Universal ERSS meter shall meet EMI / EMC requirements as specified in the relevant standards described in clause 6.0 of this specification.
- 3.22.3 The ERSS may be subjected to "Influence Quantity Tests" in this regard according to relevant clauses of IS:14697 or IEC:61000-4-4.
- 3.22.4 The ERSS may be subjected to electromagnetic field of the external origin up to the limit specified in CBIP publication-304. It should be immune to its influence conforming to IEC 802-3
- 3.22.5 The ERSS may be subjected to electrostatic discharges up to 10 Nos. and voltage up to 10 KV level. It should not affect the working or the meteorological function of the ERSS conforming IEC 801-4.
- 3.22.6 **Magnetic field produced by ERSS-**
The ERSS should not produce any electromagnetic field which may affect working of meter under test conforming to the IEC and IS.
- 3.22.7 **Radio Interference Measurement-**

It should not produce any conducted or radiated noise, which can interfere with other equipments and meter under test.

3.23 DIELECTRIC STRENGTH :

The equipment shall be capable to withstand between circuits and, between circuits & case 2 KV/ 4 KV AC 50 Hz for one minute time.

3.24 TYPE TEST REPORT :

The bidder shall have to submit type test report of Universal ERSS meter as per IEC-607361/ IS:1246/ any other relevant standard. The offer without type test report shall not be considered for further evaluation. Also the type test shall not be older than 3 years from the date of advertisement of the tender.

3.25 TEST AND FACILITIES

The bidder shall provide at his cost, facilities to carry out the following tests on the ERSS meters-

3.25.1 Test of insulation properties:

- (i) AC High voltage test.
- (ii) Insulation test.

3.25.2 Test of accuracy requirement :

- (i) Tests on limits of error.
- (ii) Test of reference meter constant.
- (iii) Test of minimum starting current.
- (iv) Test on no load condition.
- (v) Test of repeatability of error.

3.25.3 Test of electrical requirement :

- (i) Test for power consumption.
- (ii) Test of influence of supply voltage.

3.25.4 Test of mechanical requirements :

- (i) Vibration test.
- (ii) Shock test.
- (iii) Spring hammer test.
- (iv) Protection against penetration of dust and water (IP-40).

3.25.5 Other Test :

- (i) Test of operation of snap switch.
- (ii) Verification of ERSS meter data storage and BCS features.
- (iii) Test of operation of optical scanner.

3.26 TEST CERTIFICATE :

Routine test report, calibration certificate & operation manual is to be provided along with each meter. The routine test certificate of the equipment shall be provided along with each equipment and it will be in form of Compact Disc.

3.27 CALIBRATION CERTIFICATE OF ERSS :

The universal ERSS should be supplied along with the calibration certificate as per relevant standards and shall be issued by National/ International Recognized Laboratories.

3.28 SAMPLE :

One sample of reference meter along with operating manual and computer software along with necessary accessories shall be submitted along with bid or within 15 days from the opening of the bid for evaluation in lab, failing which the offer is liable for rejection.

3.29 INSPECTION :

The successful bidder shall offer universal ERSS meters at their works for inspection by authorized inspecting officer(s)/ agency of the Nigam, before dispatch. The offered lot shall be tested for acceptance test and any other test as per relevant IEC/ IS as required by authorized inspecting officer(s)/ agency of the Nigam.

3.30 PREFERENCE :

Only the original manufacture or their authorized dealers in India (in case ERSS meter is imported) of the meters shall quote against this tender enquiry.

3.31 AUTHORIZATION CERTIFICATE:

Authorization letter from the original manufacturers confirming that you are the authorized dealer/ distributor in the region and you are authorized to quote on their behalf should be furnished with the offer. In case of offering an imported brand a letter from the manufacturers confirming that you are their authorized representative in the country and you are authorized to quote on their behalf is essentially required with the offer.

3.32 TRAINING :

The successful bidder shall depute their representative to educate Engineers of JdVVNL as and when they will be called for, at no extra cost.

3.33 MAINTENANCE AND GUARANTEE:

It shall be governed by relevant clauses of GCC except that the guarantee shall be for a period of 5 years from the date of supply. The equipment found defective within the above guarantee period shall be repaired /replaced by the supplier free of cost within one month of receipt of intimation.

3.34 AFTER SALE SERVICE :

The bidder has to indicate clearly what type after sales service shall be provided within guarantee period and outside guarantee period and address of sales service centre, details of engineers shall be submitted with offer.

3.35 CASE AND WINDOW :

The Universal ERSS Meter should be housed in a suitable engineering plastic or metal case and any non-permanent deformation of the case shall not affect the satisfactory performance of the equipment. The window shall be made of transparent material.

3.36 CARRYING CASE:

Each Universal ERSS Meter shall be supplied in an Aluminum carrying case suitable for easy portability, rugged use and to prevent damage during transit. The Universal ERSS Meter should be immune to vibrations and shocks in normal transportation and handling.

3.37 PACKING AND FORWARDING :

The packing of the equipment shall be such that it should not get damaged during transit. Each test set shall be supplied with suitable packing for easy transportation, rugged use and to prevent damage during transit in addition to packing as per relevant clause of GCC. The supplied equipments should be immune to vibrations and shocks in normal transportation and handling.

3.38 COMPLETENESS OF EQUIPMENT :

Any fittings accessories or apparatus, which may not have been specifically mentioned in the specification, shall be deemed to be included and shall be supplied by the supplier without any extra charges. The equipment shall be a complete unit in all respect whether such details are mentioned in this specification or not.

3.39 GUARANTEED TECHNICAL PARTICULARS :

A statement of guaranteed technical particulars shall be furnished in the format attached as per Annex.-I along with the bid without which the Bid shall be treated as Non-Responsive.

3.40 PRICES:

The bidder must quote prices on "FIRM" price basis inclusive of all applicable taxes & duties with complete break up of unit FOR price of individual equipment included in this specifications. The prices shall be quoted item wise as per details of items and their standard accessories necessarily for all items of this specifications failing which tender offer may be rejected.

3.41 DELIVERY SCHEDULE:

The commencement period for supply shall be 30 days from the date of receipt of PO and supply shall be completed within one month thereafter.

3.42 GST CLAUSE:

As GST act has been effected from 01.07.2017, therefore, BOQ has been prepared accordingly with applicability of GST. Further, old tax structure wherever appearing in ITB/GCC/Specification may be replaced by GST as per notification.

Further, GST registration number of Jodhpur Discom is 08AAACJ8578R1ZJ

.....

3.43 ADDITIONAL ORDER

Repeat order for additional quantities upto 50% of original ordered quantities , may be placed by the nigram on the same rates ,terms and conditions given in the contract

**SCHEDULE-I****SCHEDULE OF REQUIREMENT**

S.N.	Description of the equipment required	Quantity (No.)
1.	Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS)	10

Note: The quantity indicated above is only provisional and the purchaser reserves the right to either revise the same or purchase any ratio in any number as per requirement at the time of deciding the tender.

SCHEDULE – III

JODHPUR VIDYUT VITRAN NIGAM LIMITED
A Govt. of Rajasthan Undertaking

Prescribed technical specification for supply of
 (Name of Material/Equipment/Machinery/T&P etc.)

S.No.	Technical specification to which material/equipment/Machinery/T&P shall confirm	Name of IS/other standard specification to which material should confirm	Other particulars if any.
-------	---	--	---------------------------

Certified that we agree to all the aforesaid technical specification except at S.No..... for which our technical specification shall be as under:-

S.No.	Technical specification to which material/equipment/Machinery/T&P shall confirm	Name of IS/other standard specification to which material should confirm	Other particulars if any.
-------	---	--	---------------------------

(Signature)
 Name & Designation
 with seal of the bidder.

SCHEDULE – IIIA**PRE-QUALIFICATION REQUIREMENTS**

The bidder should fulfil following qualifying requirements for successful participation in the tender along with relevant documentary evidence supporting each qualifying requirement without which the offer shall be considered non-responsive & rejected.

1.0 STATUS OF BIDDER:-

a) The bidder should be a Manufacturer of offered items. The offers from sole selling agent/ authorized dealers shall not be entertained.

b) Old/ New suppliers:- Any bidder located within or outside the state of Rajasthan has participated for the first time in a particular Discom & meeting minimum qualification requirement and has supplied the tendered material/or of higher rating in other utility shall be treated as an old supplier. Rajasthan's firms although supplied in past but not meeting minimum quantity supplied criterion including altogether new units which have not supplied any quantity but having adequate & required manufacturing and testing facility and technical know-how of the tendered material shall be considered as new firms and would be eligible for trial order only. In case of supply made to the licensed power utility outside India, the C.A. certificate furnished by firm shall be considered.

2.0 PAST SUPPLY & PERFORMANCE CRITERIA:-

The bidder shall meet both past supply and performance criteria as detailed below for opening of tenders:-

2.01 PAST SUPPLY:-

2.01.1 The bidder is required to quote for minimum **10%** of tendered quantity failing which their offer may be considered Non-Responsive.

2.01.2 The bidder should have designed, manufactured / fabricated, tested and supplied to utility / Discoms / Govt. Departments at least 2 X QQ (QQ being the quoted quantity) of similar item / higher rating of tendered material / equipment in last 3 financial years from the date of opening of technical-commercial bid.

Note: Requirement of quantity manufactured, minimum quantity to be offered and amount of Bank Guarantee to be furnished in absence of test certificate shall be reduced to 25% for Rajasthan based units.

2.01.3 In support of fulfillment of the past supply criteria, the bidder shall furnish documentary evidence in the form of certificate from Chartered Accountant in the enclosed prescribed Performa only. This prescribed Performa should be furnished either in original or copy duly attested by Notary. The bidder shall also sign and affix seal on the C.A. Certificate. The certificate should have membership number with the name & address of the chartered accountant. Certificate should clearly indicate the quantity supplied, period of supply, voltage Class, Rating of the Transformer etc. in the format

prescribed, any deviation to format or information diverted format, will not be considered and rejected.

Note:-The material supplied and accepted for same/higher rating for Turnkey projects to a licensed power utility/Govt. shall be considered for the purpose of evaluating criteria. The certificate given by C.A. shall indicate above quantity separately.

2.02 PERFORMANCE CRITERIA:-

2.02.1 i) If a bidder has supplied up to 50% of ordered quantity in previous tender up to date of opening of subsequent tender and scheduled delivery period expired, the bid of such bidder will not be opened in the Discom for that item.

ii) However, if the supplies have been completed for a quantity more than 50% but not completed up to date of opening of subsequent tender and scheduled delivery period expired, the quantity equal to the quantity pending in previous tender for that item shall be reduced from the subsequent tender quantity to be allocated to the bidder.

3.0 TYPE TEST CRITERIA:-

3.01 The bidder shall furnish valid and authenticated type test certificates from a Govt. approved / Govt. recognized / NABL Accredited laboratory / ILAC i.e. International Laboratory Accredited Laboratory (in case of foreign laboratory) of similar rating and design of tendered material/ equipment. Such type test certificates should not be older than **5 years** as on the date of bid opening. For this purpose date of conducting type test will be considered.

The type test certificate by in house laboratory of tendering firm even if it is a Govt. approved / Govt. recognized / NABL accredited / ILAC accredited, shall not be accepted, in case of their own tender. This will not apply if tendering firm is Govt. company / public Sector undertaking.

3.02 The bidder should furnish documentary evidence in support of the laboratory whose type test have been furnished, that the said laboratory is a Govt. / a Govt. approved / a Govt. recognized / NABL accredited laboratory / ILAC accredited (in case of foreign laboratory).

3.03 The type test certificates shall be furnished either in original or copy duly attested by notary.

3.04 The bids of only those bidders shall be considered to be meeting the type test criteria who furnishes complete type test certificate with the bid as per above provision.

However, in the following cases the bid of the bidder may be considered meeting the type test criteria if the bidder furnishes an undertaking stating that valid type test certificate from a Govt. / Govt. approved / Govt. recognized / NABL accredited / ILAC

accredited laboratory shall be furnished from first lot (without asking any delivery extension) along with bank guarantee with the technical bid from a Nationalized / Scheduled Bank in prescribed Performa at Schedule-III C or DD/ Pay Order amounting to Rs.5 Lac / Rs.1.5 Lac / Rs.0.5 Lac in case where the value of the purchase (corresponding to tendered quantity) under consideration is more than 1.5 Crore / upto 1.5 Crore/ Upto 0.5 Crore respectively. The initial validity of Bank Guarantee shall be nine months with claim period of three months in addition.

- i) A new Rajasthan based unit who does not possess valid type tests reports subject to technically competent.
- ii) Where one or more type tests) is/ are older than **5 years**.
- iii) Where new type tests have been added in the specification.
- iv) Where some changes in respect of type test procedure of existing type tests have been introduced in the relevant standard.
- v) Where a new item is being purchased by Nigam for the first time.
- vi) The Rajasthan & outside Rajasthan firm who does not possess valid type tests certificates, if type test reports of higher rating are furnished.

4.0 POOR RECORD OF PERFORMANCE AND DELIVERY:

The bidder who has been black listed in any of the state Discom or with whom business relations have been severed in Jodhpur Discom shall not be considered. Severment of business relations will be done in case of following circumstances for the period and with the recovery mentioned against each:

i) When vendor does not accept order awarded on its accepted price and terms and conditions or does not comply with contractual formalities.	Forfeiture of EMD/cancellation of vendor registration to recover amount of EMD along with severment of business relations for three years from the date of issue of order.
ii) When vendor complies with contractual formalities but does not commence supplies.	Levy of maximum recovery on account of delay in delivery along with severment of relations for a period of 2 years from the date of issue of order or in next two bids whichever is later along with forfeiture of EMD / cancellation of vendor registration.

5.0 (A) Black listing of a firm:

After having given Show Cause Notice of 30 days, and having established & cogent reasons for blacklisting of the firm as given below, the firm should immediately be blacklisted for a period of 5 years indicating reasons of doing so, in the letter itself, and a copy of such blacklisting should be given to the firm, with the approval of CLPC:-

- (i) There are sufficient and strong reasons to believe that the supplier or his employee has been guilty of malpractices such as manhandling/misbehaviour with Government official by supplier or his partner/employee, bribery, corruption or abatement of such a offence in a position where he could corrupt Nigam's official, fraud, vitiating fair tender process including substitution of or interpolation in

tender, mis-representation, pilfer-aging or unauthorized use or disposal of Nigam's material issued for specific work etc.

(ii) Where a supplier or his partner or his representative has been convicted by a court of Law for offences involving moral turpitude in relation to the business dealing or where security considerations including suspected disloyalty to the Nigam/state so warrant the blacklisting.

(iii) If the State Bureau of Investigation or any other authorized investigating agency recommends for blacklisting after completing the investigation.

Note: - 1 If a supplier after having tendered for a supply or after negotiations gives application voluntarily vitiating the fair tendering process; it shall also tantamount to malpractice.

Note: - 2 A register containing the reasons for blacklisting the supplier as also the names of all the partner of the suppliers and the allied concerns coming within the effective influence of the blacklisted supplier will be maintained.

Note: - 3 A register of black listed supplier will be maintained which will not only include suppliers enlisted with the Enlisting Authority but also black listed suppliers in Nigam.

Note: - 4 A Black listed supplier:

(i) shall not be entitled for registration in any of the Discom.

(ii) shall not be awarded any supply order in future in any Discom during the notified period.

(iii) his registration if any shall stand cancelled immediately and his registration security /EMD/S.D. shall stand forfeited.

(iv) In case of blacklisting of the firm by any one of Discom for the cogent prescribed reason(s) as stipulated above, the same shall be applicable to all the three Discoms and as a consequence of blacklisting, all the pending orders to that firm, will be cancelled in all three (3) Discoms with immediate effect. However in respect of completed / executed contract G.P. obligations as well as other liabilities shall be fulfilled by the supplier.

(B) Severment of Business relation:

After having given Show Cause Notice of 30 days, and having established & cogent reasons for Severment of business relation as given below, the firm should immediately be severed the business relations for a period of 2 to 3 years indicating reasons of doing so, in the letter itself, and a copy of such severment should be given to the firm, with the approval of CLPC:-

(i) The supplier continuously refuses to pay Nigam dues without showing adequate reasons and where the purchasing authority is satisfied that no reasonable dispute

attracting reference to Settlement Committee or Court of Law exists for the supplier's action of non-supply.

(ii) When vendor does not accept LOI/detailed purchase order awarded on its accepted prices and terms & conditions or does not comply with the contractual formalities.

(iii) When vendor/supplier who otherwise completed contractual formalities but does not commence supplies on the date of opening of technical bid of the fresh tender/completion of schedule delivery period whichever is later.

Note-1. In case supplier does not deposit outstanding dues towards Nigam, even after completion of severment period, the period of severment will continue.

2. Severment done purely/ mainly on account of non-deposition of dues against the supplier/vendor/contractor could be lifted by CLPC, if the dues are deposited prior to the expiry of such severment period.

3. Severment done by one Discom for non-supply of material and /or corresponding non-recovery of dues will not be effective in other Discoms except in respect of common purchase cases of three Discoms.

4. On severment of business, the EMD/SD/vendor registration security will be forfeited.

5. The orders in execution satisfactorily will not be cancelled other than the order on which severment have been done.

(C) DEBARMENT

Reasons on which Debarment can be made:-

(i) The competent authority may debar the supplier on account of his performance or other disabilities, if it is no longer considered fit to remain under vendor registration as per his obligation under vendor registration.

(ii) If at any subsequent stage of inspection of firms after award of contract, it is found that firm does not have sufficient tech. staff or required/necessary technical equipments, the purchasing authority can debar the firm for one year or next tenders whichever is later. The debarment will be lifted only on re-inspection of firm's works; the defects noticed earlier are fully rectified to the satisfaction of Nigam.

(iii) When contract agreement executed and supplies commenced but could supply only up to 50% of ordered quantity and scheduled delivery period expired, then the firm can be debarred for one year or next tender whichever is later in that Discom only for that particular item/rating/ capacity/size etc.

(iv) The suppliers who have been awarded contract for supply of material is not adhering to the periodic delivery schedule, the contract awarding authority reserve the

right to terminate the contract and may debar the firm in participating in tender for a period of 2 to 3 years.

Note:-1. On debarment, the EMD/ SD/Vendor Registration security shall be forfeited.

Note:-2. If the firm is debarred in one Discom for any reasons then the same should not be applicable in other Discom subject to exception that in case of common Discoms purchases such debarment of a firm would be applicable to all three Discoms for that particular item and rating/capacity/size etc.

6.0 APPEALS AND APPLICATIONS:-

Appeal against the order of blacklisting, severment and debarment can be filed before BOD within a period of 3 months from the date of intimation. The letter of appeal will be addressed to the order placing authority. Who will process the case for placing the matter in B.O.D. with in a period 60 days. The BOD may reduce or waive the penalty, if sufficient reasons/supporting documents are furnished by the supplier.

GENERAL CONDITIONS : - (ALL CONDITIONS BE DULY SIGNED & SEALED)

I) The bidder shall clearly indicate the deviations such as 'Technical Deviation & Commercial Deviations' in the prescribed Performa only. The deviations indicated elsewhere in the bid shall not be accepted.

II) The bidder must clearly fill up each and every particular of guaranteed technical particulars annexed with Technical Specifications otherwise he will be responsible for Technical Non-responsiveness.

III) All documents required in the prescribed format are to be furnished along with the bid itself only except an attested copy of BIS license (wherever it is required), failing which the bid will be summarily rejected.

IV) However, a copy of BIS License may be submitted by the bidder up to the official working hours of one working day prior to the schedule / notified date of opening of price bid.

SCHEDULE-IV `A`**Must be filled-in by the tenderer and attach with technical bid (Part-I)**

To,
The Superintending Engineer (MM&C),
Jodhpur Vidyut Vitran Nigam Limited,
Jodhpur.

Dear Sir,

With reference to your invitation to tender against specification No.

JDVVNL/SE/MM&C/TN-1376, we agree to supply the following quantity:-

S. No	Particulars of item	Tendered Quantity (In Nos.)	Qty. Offered (In Nos.)	Status of type test reports submitted.
1	2	3	4	5
1.	Universal Portable Electronic Reference Sub-Standard Meter (Universal ERSS)	10		

1. The offer is valid for a period of 120 days After the date of opening of this tender.
2. It is noted that the quantities as mentioned in the specification are approximate and we agree to supply any quantity as per your requirement.
3. The delivery shall strictly be in accordance with our delivery clause as given in Schedule-VIII of this specification. In case we fail to deliver the material as indicated in the clause No. 1.23, we are liable to pay recovery for delay in delivery as per clause No. 1.24 of this Schedule-II of this specification. The material shall conform to your specification No. **JDVVNL/SE/MM&C/TN-1376** and as per relevant ISS in all respect.
4. We confirm that we agree to all the terms & conditions as well as the technical stipulations of your specification No. **JDVVNL/SE/MM&C/TN-1376** and there are no deviations other than as specified in the Schedule VI (A&B).

Dated:

Yours faithfully,
Signature of tenderer with stamp

SCHEDULE – V

JODHPUR VIDYUT VITRAN NIGAM LIMITED
A Govt. of Rajasthan Undertaking

Statement of guaranteed technical particulars and other performance data for supply of
 (Name of material) against specification
 no.....

S.No. Particulars of technical & other performance data guaranteed.

Certified that we agree to all the aforesaid technical particulars and other performance data except following:-

S.No.	Particulars of technical & other Performance data	Reasons for deviations/departure.
-------	---	-----------------------------------

(Signature)
 Name & Designation
 with seal of the bidder.

SCHEDULE-V-A

GUARANTEED TECHNICAL PARTICULARS PORTABLE THREE PHASE CALIBRATOR (HT) ACCURACY 0.05 AGAINST NIT No. JdVVNL/SE (MM&C)/ TN-1376

Sr. No.	Technical Specification Requirements		Bidder's Offer
1.	a) Makers name and country & works address b) GST registration No.	Please specify manufacturer name & works address	
2.	Type of Meter	Please specify model number and attach product literature/ brochure.	
3.	Accuracy Class	Class 0.1 Direct Mode and 0.2S with Clamp-On Mode (split core error compensated current transformer) for Active, Reactive and Apparent Energy	
4.	Voltage Range	To be defined	
5.	Current Range	To be defined for both measuring mode	
6.	Current rating of Clamp On CT	Please specify the rating of clamp on CT	
7.	Parameters Displayed-	<p>➤ <u>Instantaneous Parameters</u></p> <ol style="list-style-type: none"> 1. Real Time & Date 2. Instantaneous Voltage of each phase for 4 wire and line voltage for 3 wire 3. Instantaneous Line current of each phase 4. Instantaneous active and reactive current of each phase 5. Instantaneous Power Factor of each phase & total power factor. 6. Instantaneous Frequency 7. Simultaneous display of Active, Reactive and Apparent Load 8. Phase Sequence 9. Active, Reactive (Lag & Lead) and Apparent Energies 10. Continuous update of Active, Reactive (Lag & Lead) and Apparent Energies on display. <p>➤ <u>Incremental values of energies during test</u></p> <ol style="list-style-type: none"> 1. Active Energy 2. Reactive Energy (lag / lead) 3. Apparent Energy 	
8.	Display Resolution-	<ol style="list-style-type: none"> 1. Voltage - 0.00 Volt 2. Current - 0.00 Amp 3. Frequency - 0.00 Hz 4. Individual Power Factor - 0.000 for all ranges 5. Average 3- phase Power Factor - 0.000 for 	

		all ranges 6. Instantaneous Load (kW/ kVAr/ kVA) - 0.000 7. Energy Wh/ VARh/ VAh - 0.000 for all ranges 8. % Error Resolution - 0.00	
9.	Connection check	1. Missing Current 2. Missing Potential 3. Reverse Current if any current is reverse 4. Accidental connection of both types of measurement modes. 5. Phase Association 6. Phase Sequence (Forward or Reverse) 7. Over Voltage 8. Over Current	
10.	Type of Display	Graphical Display	
11.	Interfaces	1. USB/ RS232 connector for connecting to the PC. 2. Scanning Head switch to count pulses. 3. Remote snap switch to count pulses.	
12.	Memory	Minimum 400 test results	
13.	Parameters to be logged in memory during each test	1. Date & Time stamp 2. Serial Number of the MUT 3. Consumer Identification 4. Meter Constant of the MUT 5. No. of Test Revolutions / Pulses for which test is being carried out 6. PT Ratio (as the case may be) 7. CT Ratio (as the case may be) 8. Instantaneous voltage of each phase. 9. Instantaneous line current of each phase. 10. Instantaneous Frequency 11. Instantaneous Power Factor of individual phases & total P. F. 12. Energy logged by equipment (Active, Reactive & Apparent) 13. Instantaneous Load in KW, KVA & KVAR 14. Test Duration 15. Percentage Error of Active, Reactive (Lag/ Lead), Apparent Energy	
14.	Scanning head	Common for rotor mark & LED/LCD pulses To sense pulses up to 200 Hz	
15.	Snap Switch	Snap Switch to operate equipment remotely	
16.	Dial Test Facility	Relay Output for dial test.	
17.	Key Board	Alphanumeric key pad	
18.	Type Test	Type Test report from recognized lab shall be submitted. With type test reports tender shall be rejected.	
19.	Measurement of Harmonics	Measurement up to 30 th Harmonic (minimum) with display of effective active, reactive and apparent power due to each harmonic	
20.	Accessories	Whether all accessories as per clause 18 of the specification are provided? Please furnish details.	
21.	Carrying Case	Shall be packed in Aluminum casing	

SCHEDULE – VI (A)



JODHPUR VIDYUT VITRAN NIGAM LIMITED

A Govt. of Rajasthan Undertaking

DEPARTURE/DEVIATION FROM TECHNICAL SPECIFICATION

The bidder shall state under this schedule the departure from the Purchaser's specification in respect of technical is as under:-

S.No.	Main Deviations from Technical Specification.
-------	---

Certified that we agree to all the technical specification of the NIT except for the deviation to the extent indicated above.

(Signature)
Name & Designation
with seal of the bidder.

SCHEDULE – VI (B)



JODHPUR VIDYUT VITRAN NIGAM LIMITED

A Govt. of Rajasthan Undertaking

**DEPARTURE FROM COMMERCIAL TERMS & CONDITIONS OF THE
SPECIFICATION**

The bidder shall state under this schedule the departure from the Purchaser's specification in respect of Commercial terms & conditions:-

S.No.	Main Deviations from Specification.
-------	-------------------------------------

Certified that we agree to all the commercial terms & conditions as laid down in General Conditions of Contract to the specification except for the deviation to the extent indicated above.

(Signature)

Name & Designation
with seal of the bidder.

SCHEDULE – VII

JODHPUR VIDYUT VITRAN NIGAM LIMITED
A Govt. of Rajasthan Undertaking

LIST OF PAST SUPPLIES

The bidder shall state under this schedule whether material and equipments, similar to those offered in the tender have been previously supplied by him. A list shall be given of such orders executed by him together with information regarding the names of purchasing organizations, quantities supplied and when the supplies were effected. This list should be in form given below:-

S.No.	Detailed particulars of items supplied	Qty in Nos.	Order No. & Date	Name & details of purchasing authority	Date of Completion
1	2	3	4	5	6

If executed partially to be executed	whether still stipulated in order	Delivery (Qty. in M.T.)	Remarks	to be mentioned
7	8	9	10	

Note: Separate schedules are to be furnished by the bidder for past supply to the JdVVNL, Jodhpur other State Electricity Boards and other Departments /Organizations.

(Signature)
 Name & Designation
 with seal of the bidder.

SCHEDULE-VII-A

PROFORMA FOR C.A. CERTIFICATE FOR QUANTITY VERIFICATION
TN No.1376

TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/s. _____
 (complete with address) have manufactured and supplied the goods / equipments /
 material during the following financial year(s) to the Electrical utilities / Government
 Department / Discoms / Organization as detailed out below :

S. No.	Financial Year in which material supplied	Detailed particulars of item(s) supplied	Name & particulars of Purchasing Authority	Order No. & date against which item(s) supplied.	Unit	Ordered		Actual supplied upto		Remarks
						Qty.	Value (Rs.)	Qty.	Value (Rs.)	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.

Signature
 Name & Designation
 With Seal of the Tenderer
 Date _____
 Place _____

The above particulars are true and correct based on explanations, records and books of accounts produced before us. Further the above certificate has been issued on the request of the company.

CA Firm(_____)

SCHEDULE – VIII

JODHPUR VIDYUT VITRAN NIGAM LIMITED
A Govt. of Rajasthan Undertaking

DELIVERY SCHEDULE**PART-A**

The delivery schedule of the material by the Purchase Officer is as mentioned hereunder:-

S.No.	Particulars of Material	Commencement period per Month.	Rate of supply per Month	Period for completion of delivery of entire material
-------	-------------------------	--------------------------------	--------------------------	--

As per Clause No.3.41 of the tender specifications.

PART-B

In case bidder deviates from the delivery schedule mentioned by the purchaser in Part-A then the delivery schedule shall be indicated/mentioned by the bidder as under:-

S.No.	Particulars of Material	Commencement period per Month.	Rate of supply per Month	Period for completion of delivery of entire material
-------	-------------------------	--------------------------------	--------------------------	--

- Note:**
1. During the commencement period the process of model assembly and submission of B.O.M. for approval shall be got completed.
 2. During the commencement period the contractual formalities shall be got completed.

(Signature)
 Name & Designation
 with seal of the bidder

SCHEDULE – IX**JODHPUR VIDYUT VITRAN NIGAM LIMITED**
A Govt. of Rajasthan Undertaking

List of Equipments and Technical Hands Available with the Firm
(To be filled in by the bidders & enclosed with the bid)

Manufacturers and / or their authorized agents who are quoting against this bid are requested to furnish the following information along-with the bid. The Purchaser will have the discretion to ignore the bid without the under noted particulars and/or ignore the bid particulars.

1. Name and Address of Manufacturer.
2. Place where works exist.
3. Details of machinery particularly with B.H.P. of each item installed.
4. Details of staff employed in the works.
5. Date when started the manufacturing of item under reference.
6. List of items manufactured.
7. Literature and drawings of items manufactured showing their description, size, design and other important technical particulars.
8. Details of order so far, executed along with the names of organization to whom supplied.
9. Manufacturing capacity.
10. Is the workshop open for inspection by the representative of the board, if required?
11. Statement of financial resources and Banking Reference along with Balance-Sheet for previous two years.
12. Testing facilities available for the manufactured articles in the testing laboratory of works.
13. Whether the Firm is a small/medium/large scale industry.
14. Registration No. with :-
 - i. Small Scale, National/State.
 - ii. DGTD
 - iii. State Industries Department.

(Signature)

Name & Designation
with seal of the bidder.

GENERAL
Amendments in GCC & ITB

- 1) Wherever EMD and Security Bank Guarantee (SBG), are appearing in the ITB, GCC & other Bidding Documents, same is hereby replaced by BID SECURITY as under:-**

BID SECURITY

Bid security shall be 2% **of the estimated value of subject matter of procurement put to bid.** In case of Small Scale Industries of Rajasthan it shall be 0.5% of the **quantity offered** for supply and in case of sick industries, other than Small Scale Industries, whose cases are pending with Board of Industrial and Financial Reconstruction, it shall be 1% of the value of bid. Every bidder, if not exempted, participating in the procurement process shall be required to furnish the bid security as specified in the notice inviting bids.

In case SSI unit of Rajasthan quotes the less than the tendered quantity, then they are required to furnish Bid Security @ 0.5% of the value of the quantity offered by them, failing which bid shall be considered non-responsive.

The Bid Security amount (as applicable) to be paid by Demand Draft/Banker's Cheque in favour of SR. AO (CASH & CPC), JDVNL, Jodhpur (payable at Jodhpur) 342003 upto 4.00 p.m. upto one WORKING day prior to schedule date of opening of respective bid or Bank Guarantee, in specified format, of a scheduled bank in favour of Superintending Engineer (MM&C), JDVNL, Jodhpur, be deposited at New Power House, Industrial Area, Jodhpur-342003 upto 4.00 p.m. upto three WORKING days prior to schedule date of opening of respective bid. The Bank Guarantee against Bid Security be issued by Nationalized / Scheduled Bank. The same may be accepted after confirmation by issuing Bank. If any Bid Security Bank Guarantee not in proper format / not confirmed by the issuing Bank the same would not be accepted and the bidder would be immediately shorted out from bid process.

The Micro, Small & Medium Scale Industries of Rajasthan and sick industries, other than Small Scale Industries, whose cases are pending before the Board of Industrial and Financial Reconstruction (BIFR) shall furnish self-attested documentary evidence duly attested by Notary to claim the above.

- 2) Wherever Performance Bank Guarantee (PBG) and Composite Bank Guarantee (CBG) are appearing in the ITB, GCC & other Bidding Documents, same are hereby replaced by PERFORMANCE SECURITY as under:-**

PERFORMANCE SECURITY

- (i) Performance security shall be solicited from all successful bidders except the department's of the State Government and undertakings, corporations,

autonomous bodies, registered societies, co-operative societies which are owned or controlled or managed by the State Government and undertakings of the Central Government. However, a performance security declaration shall be taken from them. The State Government may relax the provision of performance security in particular procurement or any class of procurement.

(ii) The amount of performance security shall be **five percent** of the amount of supply order in case of procurement of goods and services and **ten percent** of the amount of work order in case of procurement of works. In case of Small Scale Industries of Rajasthan it shall be **one percent** of the amount of quantity ordered for supply of goods and in case of sick industries, other than Small Scale Industries, whose cases are pending before the Board of Industrial and Financial Reconstruction (BIFR), it shall be **two percent** of the amount of supply order.

Performance security from the successful bidder shall be taken or may adopt option after approval of purchaser to withheld **5%** (in case of established suppliers)/ **1%** (in case of Micro, Small & Medium scale industries of Rajasthan)/ **2%** (in case of sick industries) / **10%** (in case of other suppliers) amount in lieu of performance security from each bill on pro-rata/ proportionate basis. In case of successful bidder, the amount of bid security may be adjusted in arriving at the amount of the performance security, or refunded if the successful bidder furnishes the full amount of performance security.

3) VENDOR REGISTRATION

The relaxation/exemption given to the registered vendors of the Nigam in respect of EMD/SBG, wherever appearing in the ITB, GCC & other Bidding documents, are hereby WITHDRAWN.

4) The indirect taxes i.e. Excise Duty, Service Tax, VAT/CST, Entry Tax etc. mentioned in G.C.C., may now be read as G.S.T.

APPENDIX-A

Bank Guarantee No. _____.
 Security Amount : _____.
 Issued on dated : _____.
 Valid upto : _____.
 Claim upto / Grace period: _____.

PERFORMA OF BANK GUARANTEE FOR BID SECURITY

(Bank Guarantee in lieu of bid Security on non-judicial Stamp Paper of Rajasthan State of 0.25% of the B.G. value or Rs.25,000/-, whichever is less)

To,

The Superintending Engineer (MM&C),
 Jodhpur Vidyut Vitaran Nigam Limited,
 Jodhpur.

1. Whereas _____ (name of the Bidder) (hereinafter called "the Bidder") has submitted its bid dated _____ (date of submission of bid) for _____ (name of contract/ name of the material with Bid no. / TN No. _____) (hereinafter called 'the Bid').
2. KNOW ALL PEOPLE by these presents that WE _____ (name and address of branch of Bank) of _____ (name of country), having our registered office at _____ (addresses of bank) (hereinafter called 'the Bank'), are bound unto _____ (name of Purchaser) (hereinafter called "the Purchaser") in the sum of Rs. *_____ for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents sealed with the Common Seal of the said Bank this _____ day of _____ 20_____.
3. THE CONDITIONS of this obligation are :
 - i. If the bidder withdraws its Bid during the period of bid validity specified by the Bidder in the Bid Form; or
 - ii. If the bidder refuses to accept the correction of error in his Bid; or
 - iii. If the bidder, having been notified of the acceptance of its Bid by the purchaser during the period of bid validity:
 - a. Fails or refuses to execute the Contract Agreement within the time specified in purchase / work order, if required, or
 - b. Fails or refuses to furnish the performance security within the time specified in purchase / work order in accordance with the GCC, or
 - c. Fails to commence supply of goods or services or execute work as per purchase / work order within time specified.

- iv. If the bidder breaches any provision of the Code of integrity specified in the RTPP Act and Chapter VI of the RTPP Rules.
4. We undertake unconditionally and irrevocably to guarantee as primary obligator and not as surety merely to pay to the purchaser a sum of Rs. _____ (in words Rs. _____) upon receipt of its first written demand, without the purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or all of the above three conditions specifying the occurred condition or conditions.
 5. The decision of the Superintending Engineer (MM&C), Jodhpur Vidyut Vitaran Nigam Limited, Jodhpur shall be final whether breach has been committed on the right to demand the amount of guarantee from us which has accrued to the purchaser.
 6. This guarantee shall not cease or determine, if the purchaser grants time or indulgence or vary the terms of the contract with the Contractor or without our consent or knowledge.
 7. The guarantee herein contained shall not be affected by any change in the constitution of the Contractor.
 8. We _____ further undertake not to revoke this guarantee during its currency except with the previous consent of the Superintending Engineer (MM&C), Jodhpur Vidyut Vitaran Nigam Limited, Jodhpur.
 9. All disputes arising under the said guarantee between the Bank and the Nigam or between the Contractor and the Nigam pertaining to the guarantee, shall be subject to the jurisdiction of the Courts in Jodhpur, Rajasthan alone.
 10. This guarantee will remain in force up to and including one hundred eighty (180) days after the date of the opening of bids, i.e. upto _____, with a further grace period of Ninety (90) days and any demand in respect thereof should reach the Bank not later than the above date.

Yours faithfully,
Bankers (EXECUTANT)

Signed by the above named Bank in presence of :
(signature with full Name and Address)

Witness :

1. _____.
2. _____.

Attested by Notary Public, First Class Magistrate or directly confirmed by the executing Bank.

* The Bidder should insert the amount of the guarantee in words and figures denominated in the currency of bid.

Note : In case the bid is submitted by a Joint Venture, the Bid Bank guarantee shall be in the name of Lead partner or in the name of joint venture partners submitting the Bid covering all the partners of the joint venture.