



प्रभास्मि शशि सूर्ययोः

JAIPUR VIDYUT VITRAN NIGAM LIMITED
(A Govt. of Rajasthan Undertaking)
Office of the Superintending Engineer (M&P)

Chambal Power House Premises, Hawa Sarak, Jaipur-302019

Website: <http://energy.rajasthan.gov.in/jvvn1>

No. JPD/SE (M&P)/TN-M&P-13/D. 782

DATE: 20/8/19

Amendment/Clarification against TN-M&P-13

A representation was received from M/s YMPL, Udaipur to include meter testing in scope of work. After approval from competent authority and to enhance clarity in the scope of work against TN-M&P-13 following amendments/clarifications in the RFP document is hereby issued.

1. The testing of meter has been added in the existing objective and scope of work.
2. In order to enhance clarity the scope of work is re-classified as "Testing of Metering Equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having voltage levels of 11/33/132KV at consumer site in Jaipur Discom." in the complete RFP.
3. Please read metering equipment as Meter, CT, PT and CT-PT sets in the complete RFP instead of CT, PT and CT-PT sets as mentioned earlier.
4. BOQ items mentioned in Excel Format for Financial Bid Submission shall be read as under:-

1.1	Testing of metering equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having supply Voltage level 11 KV by secondary injection System.
1.2	Testing of metering equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having supply Voltage level 33 KV by secondary injection System
1.3	Testing of metering equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having supply Voltage level 132 KV by primary injection System (testing of 22 Nos. consumer yearly for 2 years, therefore total nos. of consumers are 44 Nos.)
2	Optional. The quoted prices shall not be the part of financial bid evaluation for deciding L1 bidder.
2.01	Testing of metering equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having supply Voltage level 11 KV by primary injection System.
2.02	Testing of metering equipments i.e. Meter, CTs, PTs and CT PT sets for the consumers having supply Voltage level 33 KV by primary injection System

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5. Agency shall prepare detailed test reports in the enclosed format **Annexure-A** for Meter, CTs, PTs and CTPT sets under test in place of CTs, PTs and CTPT sets. The following shall be also part of **Annexure-A**:-

Meter Details :-

Ib :-				Imax:-			
Serial No				Year of Mfg			
Make				PTR			
Accuracy Class				CTR			
Meter Constant				MF			
Load (% of Ib)	%Error at UPF	% Error at Limit UPF	%Error at 0.5 Lag PF	%Error at 0.5 Lag PF	% Error at 0.8 Lead PF	% Error at 0.8 Lead PF	% Error at Limit at Lead PF
At Imax.							
100%							
20%							
5%							
Actual Load							
Meter Reading	Before Testing	After Testing	Difference (After Testing - Before Testing)		Testing Consumption = Difference X Actual M.F		
kWh (Import)							
kWh (Export)							
kVAh (Lag)							
kVAh (Lead)							
kVAh							
MD							

6. Technical details of equipments used for meter testing shall be as under:-

A. For Testing of Meter for 11/33 KV voltage level:

The meter will be tested using portable energy meter calibrator (Portable energy meter test equipment). The calibration is done as per customer's requirement (**Annexure-A**). The meter is then reinstalled in the respective feeder.

a. LIST OF STANDARD EQUIPMENTS USED

SN	Field Parameter	& Standard Maintained	Type / Accuracy	Range
1	Power/Energy	Portable Energy Meter Calibrator	HT+, 0.2 / one class higher in Direct Mode	Upto 10 A

b. PORTABLE ENERGY METER TEST EQUIPMENT+ (Three Phases)

Portable energy meter test equipment+ with Error Calculator is to be used to check the accuracy of electricity meters (both Electro-mechanical and static type) or for measurements where electrical energy and power have to be measured with a high accuracy. It is to be used with phantom load sets or on real loads.

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Portable energy meter test equipment⁺ performs the following functions:

1. Tri-vector Energy measurement (e.g. Wh, VARh lag, VARh lead and VAh).
2. Display of instantaneous electrical parameters (updating every second).
3. Display of calculated error of meter being tested (in 0.01 % resolution).
4. Storage of 200 tests data in its Non-Volatile Memory.
5. RS 232 interface for connection to a PC or printer.
6. Maintains Real time (in built RTC).
7. Dosage testing.

➤ **Portable energy meter test equipment HT+ (For HT TVM Testing)**

- 3-Phase 3-Wire (2 x 110 Volt) with 1A, 5A.
- 3-Phase 4-Wire (3 x 63.5 Volt) with 1A, 5A.

c. PHANTOM LOAD SET

It should be suitable for on-site functional testing of accuracy of the meters. It should have 3 phase 4 wire (R, Y, B and neutral), 240 / 415, 50 Hz, A. C. Supply for its operation. Phantom load test set should test voltage ranges as 63-110-240 Volts, capacity of 20VA. The output test voltage should continuously variable by means of variac and test voltage can be adjusted for the range of 0 - 120% of Vref. The phantom load set should be with facility for Power Factor with fine control:

- UPF
- 0.866 Lag
- 0.866 Lead
- 0.5 Lag
- 0.5 Lead

Note: Limits of Errors are for Meters of class 0.5s/0.2s are according to IS 14697.

B. For Testing of 132 kV TVM / ABT Energy Meter :-

The meter will be tested using portable energy meter calibrator (Portable energy meter test equipment). The testing is done as per customer's requirement (Annexure-A). The meter is then reinstalled in the respective panel/feeder. The scope of testing shall be as under:-

- Testing of Energy Meters as per the provision under IS 14697/1999 or IEC 687 at the following conditions in case of HT-TVM/ABT Meter of 0.2s & 0.5s classes.
- Active & reactive Energy Errors in case of HT-TVM.
- Active & reactive import / export mode Energy error in case of ABT Meters.

a. LIST OF STANDARD EQUIPMENTS USED

S N	Field Parameter	& Standard Maintained	Accuracy	Range
1	Power/Energy	Portable Energy Meter Calibrator	0.02 Class	Upto 120 A

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b. PORTABLE ENERGY METER TEST EQUIPMENT

Portable energy meter test equipment⁺ with Error Calculator is to be used to check the accuracy of electricity meters (both Electro-mechanical and static type) or for measurements where electrical energy and power have to be measured with a high accuracy.

c. Portable energy meter test equipment HT+ (For HT TVM / ABT Meter Testing)

- 3-Phase 4-Wire (3 x 63.5 Volt) with 1A, 5A.



(L.K.Vijayvergia)
Superintending Engineer (M&P)
JVVNL, Jaipur

Copy to the Account Officer (IT & RE), JVVNL, Jaipur for information and necessary action:



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JVVNL, Jaipur

