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Ref. No. : Co-ord. cell /Wind/ meters/
To

No 39358

Date 28 DEC 2005

Superintending Engineer
O & M Circle, M.S.E.D.C.L.
Satara /Sangli /Ahmednagar
Dhule /Amravati /Kudal

Subject: Installation of four quadrant Import/Export meters, for wind mill & co-gen. project.

Ref:-1) MERC Order dtd. 24.11.2003

2) Supdtg Engr. (TCC) Lr No.SE/TCCP/T-100/1000 dt. 7.12.2004.

Hon'ble commission vide order dt. 24.11.2003 directed as follows:

"Metering of Real time TOD meters with on line reading features are required to be installed at entry & exit point of each transaction. As such it is necessary to install four quadrant Import/Export meters for wind farm project & co-generation project. Meter having following parameters should be installed by wind farm project / co-generation project.

Sr no	Particulars	Feature
1	Type	3 Phase, 4-wire, 3-Element
2	Mounting	Wall or Flush
3	Accuracy	Class 0.2s
4	System Voltage (Phase to Neutral)	3 x 63.5 V, 4 Wire, 50 Hz
5	Current Rating	-/ 1 Amps or -/5 Amps - The ratios can be programmed as per customer requirement
6	Whether primary metering required	Yes.
7	Billing Parameters i) Power factor & Energy parameters ii) Maximum Demand Parameters iii) MD Integration Period	<ul style="list-style-type: none"> a) kwh (Delivered) b) kwh (Received) c) kVARh (Q1) d) kVARh (Q2) e) kVARh (Q3) f) kVARh (Q4) g) Average PF (Delivered) h) Average PF (Received) i) kVAh (Q1) j) kVAh (Q3) <p>Note : Power Factor recording with Lag only</p> <ul style="list-style-type: none"> a) kVA (Q1) b) kVA (Q3) <p>30 min</p>

Elster meter 1205

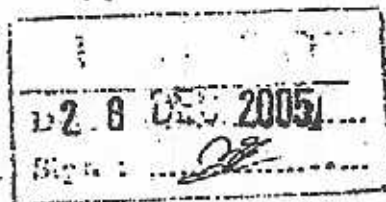
Supdtg. Engr. (TCC) Pune vide Ir. No.1000 dt. 7.12.2004 (copy enclosed) has suggested that meter should have the following facility.

- 1) Twelve resets billing TOD history for both Import & Export modes for all eight energies.
- 2) Load survey data for 14 no. of parameters for 37 days on FIFO basis.(Parameters: KWh(Import) ,KWh(Export),RKVAh-Lag(Import), RKVAh-Lag(Export), RKVAh-Lead(Export), Average Voltages & Currents per phase basis.)
- 3) Instantaneous data at the time of retrieval with phasor diagram.
- 4) Tamper data for 255 events FIFO with snapshots.
- 5) Push button for high-resolution readings on display.
- 6) The meter is having remote metering capability with external modem through PSTN lines through RS-232 Serial port.
- 7) Phase wise current & voltage total harmonic distortion on meter display.

The meter should also have the following feature

- a) Tamper data for up to 255 Events with snap-short are available in the meters memory on FIFO (First In First Out) basis.
- b) Instantaneous data at the time of retrieval is available along with the Phasor diagram.
- c) The remote metering capability with External Modem through PSTN lines is available.
- d) The phase wise Current and Voltage Total Harmonic Distortion is available on the display in terms of a percentage.
- e) Instantaneous Phase wise Harmonic content can be observed for upto the 15th harmonic in the form of a bar graph in the BCS reporting.

Suptd. Engr.(TCC) Pune vide letter dtd 7.12.2004 submitted the testing reports to C.E. (Dist.) & stated that the results found to be satisfactory for the "Elster " make meter installed at MEDA's wind mill project at Vankusawade. S. E.(TCC) Pune recommended that "Elster " make meters are suitable for four quadrant (Import/ Export) metering for wind mill/ co-generation project.



AKR
24/12/05
Director (Operation)

o/c
Draft for Approval
& issue please

CE (comm) *[Signature]*

3) Superindng Engineer, Testing & Communication Circle MSEDCL . Pune-411 011

This has reference to his lrr. No. 1900 dtd 7.12.2004. For information & necessary action

Elster meter 1205