Material Management Cell
No. CE/QC-T/MSC-II/ABT/ 96
Date: 20.06.2019

Office Note

Sub: Clarification regarding deviations for HT three phase four wire CT / PT operated 1 Amps or 5 Amps fully Static & AMR compatible Four Quadrant TOD Tri - vector Energy Meter as per Category B of IS: 15959 / 2011 amended upto date with Availability Based Tariff feature.

Ref:

1. MMC/T-NSC-04/0419/339 dtd. 18.06.2019
2. CE/QC-T/MSC-II/ABT/83 dtd. 11.06.2019

With respect to the above, bidders have raised queries against technical specifications of HT three phase four wire CT / PT operated 1 Amps or 5 Amps with Availability Based Tariff feature. All the repeated queries of M/s Secure Meters Ltd and M/s Larsen & Toubro Ltd were already conveyed to MM Cell on 11.06.2019 as per reference (2). The remarks in accordance with newly received queries from the representations of above respective meter manufacturers are as below.

I. M/s Secure Meters Limited

Sr. No.	Particulars (Clauses of Technical Specification)	Deviation received	Remark
1	Clause no. 5.12 The meter accuracy shall not be affected by AC / DC magnetic field up to 0.2 Tesla on all the sides of meter i.e. front, sides, top and bottom of the meter as per CBIP publication No. 304 with latest amendments. Under influence of any magnetic field (AC / DC / Permanent) above 0.2 Tesla, if the accuracy of the meter gets affected, then the same shall be recorded as magnetic tamper event with date & time stamping.	The subject clause needs to replaced with CBIP-325 as made applicable in other cases.	Accepted. Clause 5.12 is modified as "The meter accuracy shall not be affected by AC / DC magnetic field on all the sides of meter i.e. front, sides, top and bottom of the meter as per CBIP publication No. 325 with latest amendments. If the accuracy of the meter gets affected, then the same shall be recorded as magnetic tamper event with date & time stamping. The energy recorded during such tamper shall be registered in a separate register in addition to main register"
2	Clause no. 5.21 The meter shall withstand any...	These are special application meters and are not designed for 35KV ESD compliance. Also these meters will be installed in MSEDCL Premises in a kiosk/cubicle where tampering by own staff in impossible. Hence the clause may please be deleted.	Not accepted. Clause 5.21 is modified as "The meter except the communication ports shall withstand any type of High Voltage upto 35 kV and High Frequency surges which are similar to the surges produced by induction coil type instruments without affecting the accuracy of the meter. The accuracy of the meter shall not be affected with

			the application of abnormal voltage / frequency generating device such as spark discharge of approximately 35 kV".
3	Clause no. 5.28 i) The meter shall measure, record and display total kWh energy and fundamental energy separately in Import mode. ii) The meter shall measure, record and display total kVAh energy and fundamental energy separately in Import mode. iii) The meter shall measure, record and display total kWh energy and fundamental energy separately in Export mode. iv) The meter shall measure, record and display total kVAh energy and fundamental energy separately in Export mode.	Apparent energy will be calculated either on Total Active or Fundamental Active energy. Hence any one type of calculation can be provided for both import & export mode. Following Active and Apparent energy parameters are provided:- • Total Active import • Total Active Export • Fundamental Active import • Fundamental Active Export Apparent import/export energy either calculated with total Active energy or fund. Active energy.	Accepted. Clause 5.28 is modified as i) The meter shall measure, record and display total kWh energy in Import mode. ii) The meter shall measure, record and display total kVAh energy in Import mode. iii) The meter shall measure, record and display total kWh energy in Export mode. iv) The meter shall measure, record and display total kVAh energy in Export mode.
4	Clause no. 11.03 The decimal units shall not be displayed in auto scroll mode. However it shall be displayed in push button mode or alternate mode for high resolution display for testing.	Since all these meters will be read by AMR and no manual reading is not possible the auto & manual mode can have decimal digits. The resolution of energy & other instantaneous parameters with 11KV & -/5A commissioning will be as below:- User Input Type HT4 PtmV 11000 PtmC 5 SecV 110 Ib 5 Imax 10 Energy / Rate registers 00000000.1 kWh Load Survey / Demand 00000.001 kWh Hi-Resolution Energy 0000000.00001 kWh Voltage 00001 V Current 00.001 A Power 0000.1 kW Frequency 00.001 Hz Power Factor 0.001 Lag or Lead Angle 000:00 Degrees:Minutes	Accepted. Clause 11.03 is modified as "Th decimal units shall not be displayed i auto scroll mode and push butto mode or alternate mode. However shall be displayed in for hig resolution display for testing"
5	The meter shall record the occurrence and restoration	Meter will not have KVAh parameter in event snapshot.	Not accepted

	of tamper events of current, voltages, kWh, **kVAh**, power factor, event code, date & time etc	Snapshot parameters of event will be as per IS: 15959.	
6	Clause no. 5.01 The meter cover shall be secured to base by means of sealable unidirectional captive screws.	Request to optionally, consider Bi-directional sealing screws also as it does not affect the performance of the meter.	Accepted. Clause 5.01 is modified as "The meter cover shall be secured to base by means of sealable unidirectional/bidirectional captive screws".

II. M/s Larsen & Toubro Limited

Sr. No.	Particulars (Clauses of Technical Specification)	Deviation received	Remark
1.	Clause no. 5.01 The meter base shall be opaque & meter top cover shall be transparent.	Meter base as well as cover are opaque except the display window & name plate.	Accepted. Clause no. 5.01 "The meter base shall be opaque & meter top cover shall be transparent/translucent/opaque".
2	Clause no. 5.09 The terminal cover shall be transparent with one side hinge & sealing arrangement on both sides.	The terminal cover is provided with a top hinge so that it opens from bottom	Not accepted
3	Clause no. 5.10 (e) For DISPLAY HOLD / UNHOLD (to lock required display parameter)	e) Display timeout of 30 min can be provided by manually scrolling to the desired parameter. DISPLAY HOLD / UNHOLD is not provided	Accepted. Clause no. 5.10 (e) is deleted
4	Clause no. 5.24 RS232 port connection diagram 4-Pin	Our standard RS232 port is 6-Pin which is common with most of the manufacturer. Request to include 6-Pin connector instead of 4-pin	Not accepted
7	Clause no. 9.00 The meter shall be capable of detecting and recording occurrences and restoration for reverse current of any one phase w.r.t. two other forward phase or vice versa. The meter shall record energy with current available in these phases and average voltage and power factor of remaining phases with date & time of occurrence and restoration.	Reversal sall be based only on sign or MAJORITY LOGIC? In bi-directional meter actual voltage & current should be taken for measurement.	Not based on Majority Logic. Accepted Clause no. 9.00 is modified as "The meter shall be capable of detecting and recording occurrences and restoration for reverse current of any one phase w.r.t. two other forward phases or vice versa. The meter shall record energy with current available in these phases and voltage and power factor of respective phase with date & time

			of occurrence and restoration
8	Clause no. 11.02 Principal unit of measurement: KWH, KVARH & KVAH	Principal unit of measurement KWH & KVARH only as per IS & IEC	Accepted. Clause no. 11.02 is modified as "Principal unit of measurement: KWH and KVARH"
9	Clause no. 11.06 18. Average frequency for each successive 15 min block (00 to 99 for frequency form 49.5 to 50.2 Hz)	Can be provided for previous IP on display	Accepted. Clause no. 11.06.18 is modified as "Average frequency for previous 15 min block (00 to 99 for frequency form 49.5 to 50.2 Hz)"
10	Clause no. 11.06 19. Net kWh and kVAh transmittal during each successive 15 min block up to second decimal with plus / minus sign (PLUS sign when there is net kWh and kVAh IMPORT to the beneficiary and NEGATIVE sign when there is net kWh and kVAh EXPORT from the beneficiary)	Can be provided for previous IP on display	Accepted. Clause no. 11.06.19 is modified as "Net kWh and kVAh transmittal during previous 15 min block up to second decimal with plus / minus sign (PLUS sign when there is net kWh and kVAh IMPORT to the beneficiary and NEGATIVE sign when there is net kWh and kVAh EXPORT from the beneficiary)"

Copy of Office Note of previously solved queries vide reference no. (2) is attached herewith.

Submitted for needful, please.

Chief Engineer (Testing)

Chief Engineer (MM Cell)

Copy s.w.r.to:

1. Director (Operations), MSEDCL, Prakashgad, Mumbai.
2. Executive Director (Dist-II), MSEDCL, Prakashgad, Mumbai