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CE(Dist)/Testing/40-200A Meter/Guidelines/025597 Date:- 29 OCT 2018

Circular

Sub:- Guidelines for proper installation of 40-200 Amp CT Embedded Energy Meter for avoiding the PT missing event.

In MSEDCL nowadays we are using Three phase, Four wire CT embedded energy meters generally for LT consumers having load current ranging from 40Amps to 200Amps. These types of meters are Thread-through meter i.e. cable passes directly through meter. The complete meter unit i.e. meter, internal CTs and modem are housed in the same enclosure. The meter has provision in such a way that supply / service cable of consumer is directly passed through the meter for current measurement. Piercing screws are used in the meter for voltage connection. The meter gets PT supply by tightening the PT screws which punctures the insulation of cable of the respective phase. The meter records and displays active energy, apparent energy, reactive energy and maximum demand KW / KVA for Three Phase Four Wire AC balanced / unbalanced loads.

In view of above said innovative design, proper care needs to be taken while installation of the CT embedded energy meters (40-200A) at consumer premises so as to avoid PT missing events and inaccurate billing & loss of revenue to MSEDCL thereof.

In this connection, recently an experiment was carried out for verification of PT missing event in 40-200 Amp meter in Kalyan-I Testing Lab by using various size cables in presence of vigilance officer. It was observed that cables up to 50sqmm size fitted properly without any issue. However, it is observed that if cable of size 35 Sq.mm is used and not clamped tightly and PT screws are not tighten properly then sometimes PT missing event is recorded by the meter.

In order to ensure proper metering installation for avoiding PT missing event in 40-200 Amp CT embedded meter and to protect MSEDCL's revenue thereof, following guidelines should be followed scrupulously by Field Engineer while installation of such types of meters:-

1. Meter shall be installed on wall/Meter Board at readable height, firmly.
2. **Cables not less than 50 sqmm size** shall be inserted from top and shall be pulled out from the bottom end. The cable gland should be tightened after inserting the cable.
3. The cable should be tightened with the nut bolt given at bottom side, and make sure that cable shall be fixed firmly. In addition to this, the cable shall be clamped on wall at top and bottom ends of the meter so that cable cannot be moved from its position.
4. Verify the quality (Shape, Threads) of the PT screws by completely removing it. If it is not found in order (like threads damaged) the same needs to be replaced by the same size and similar kind of good quality screws.
5. Then the piercing screw given in meter should be tightened and make sure that cable insulation by this piercing screw will get puncture as this is important step to get PT supply for meter. Check using a multi meter whether connections for potential to meter has been achieved or not. The continuity is to be ensured between potential screw & the corresponding cable end. Then fill the gland nuts with the **RTV Silicone filling compound** in the empty space of gland to the fullest.
6. Thereafter, try to pull or hard shake the cable to ensure its firm fixing.

7. After above step it is necessary that site in-charge shall again check the per phase voltage availability in meter display as well as by Multi-meter. If PT missing event observed then the above said procedure needs to be repeated with due care. If the issue persists then the connection should not be charged unless the issue gets rectified/meter get replaced.
8. Finally, sealing of the Meter Terminal (Piercing Screw) Cover alongwith meter body shall be done as per routine procedure so that PT terminals shall not be accessible without removing the seals of the terminal cover when energy meter is mounted on the meter board/ wall.

This is for your information and further necessary action please. The circular is available on website hence hard copy will not be issued. However, kindly ensure that the guidelines will get circulated upto ground level staff.


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