ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

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Metering issues – Location, Ownership, Cost Recovery Mechanism and Responsibilities of Licensees/Generating Companies

Practice Directions No. APERC/05/2015 **Dated: 29-01-2015**

Read the following:

(i) CEA (Installation and operation of meters) Regulation, 2006.
(ii) CEA (Installation and operation of meters) Amendment Regulation, 2010.
(iii) CERC (Open Access in inter-State Transmission) Regulations, 2008.
(iv) CERC (Open Access in inter-State Transmission) (Amendment) Regulations, 2009
(v) CERC(Open Access in inter-State Transmission) (2nd Amendment) Regulations, 2013
(vi) APERC-Licensee's duty for supply of electricity on request, Regulation 4 of 2013.

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1. Preamble:

Under Section 55 of the Electricity Act, 2003, the Central Electricity Authority, issued "Installation and operation of meters, Regulation, 2006". The Regulation deals with issues like, type of meters, ownership of meters, location of meters, accuracy class of meters, energy accounting.

Central Electricity Regulatory Commission (CERC) issued "Open Access in inter-State Transmission Regulations, 2008" related to Open Access issues.

Under Section 55 (3), the State Regulatory Commission has the responsibility of implementing the provisions contained in Section 55 and the Regulations made under Section 55 (1).

The Transmission Licensee and Distribution Licensee raised certain issues connected with;

1) Ownership of meters,
2) who has to bear the cost of meter and allied equipment
3) Installation responsibility, testing and
4) Location of meters

arising in the course of implementing the Regulations made in this regard.

Therefore, in order to effectively implement the provisions of Section 55 of the Electricity Act, 2003 and the Regulations made under Section 55 (1) or otherwise, read with Regulation 54 of the Andhra Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 1999, the Andhra Pradesh Electricity Regulatory Commission hereby issues the following Practice Directions:

2. Applicability:

[1]These proceedings shall be applicable to generating companies and licensees who are engaged in the business of generation, transmission, distribution, and supply of electricity and to all Open Access Users in the State of Andhra Pradesh who have to be covered under ABT and have been permitted open access by the Commission.

3. Relevant provisions of CEA Regulation cited in reference (1) extracted hereunder:

(a) Definitions in CEA Regulation under clause 2:

"2 (1) (i) 'Check Meter' means a meter, which shall be connected to the same core of the Current Transformer (CT) and Voltage Transformer (VT) to which main meter is connected and shall be used for accounting and billing of electricity in case of failure of main meter;

2(1)(j)'Consumer Meter' means a meter used for accounting and billing of electricity supplied to the consumer but excluding those consumers covered under Interface Meters;

2(1)(k)'Correct Meter' means a meter, which shall at least have, features, Accuracy Class and specifications as per the Standards on Installation and Operation of Meters given in Schedule of these Regulations;

2(1)(n) 'Interface Meter' means a meter used for accounting and billing of electricity, connected at the point of interconnection between electrical systems of generating company, licensee and consumers, directly connected to the Inter-State Transmission System or Intra-State Transmission System who have to be covered under ABT and have been permitted open access by the Appropriate Commission;

2(1)(o) 'Main Meter' means a meter, which would primarily be used for accounting and billing of electricity;

2(1)(v) 'Standby Meter' means a meter connected to CT and VT, other than those used for main meter and check meter and shall be used for accounting and billing of electricity in case of failure of both main meter and check meter;

2(1)(w) 'Supplier' means any generating company or licensee from whose system electricity flows into the system of another generating company or licensee or consumer;"

4. Ownership of meters:

(1) Clause 6(1) of CEA Regulation reads as follows:

"6. Ownership of meters.-

(1) **Interface meters**

[1] Amended vide Practice Directions APERC/01/2016, dt: 05-02-2016

(a) All interface meters installed at the points of interconnection with Inter-State Transmission System (ISTS) for the purpose of electricity accounting and billing shall be owned by CTU.

(b) All interface meters installed at the points of interconnection with Intra-State Transmission System excluding the system covered under sub-clause (a) above for the purpose of electricity accounting and billing shall be owned by STU.

(c) All interface meters installed at the points of inter connection between the two licensees excluding those covered under sub-clauses (a) and (b) above for the purpose of electricity accounting and billing shall be owned by respective licensee of each end.

(d) All interface meters installed at the points of inter connection for the purpose of electricity accounting and billing not covered under sub-clauses (a), (b) and (c) above shall be owned by supplier of electricity."

(2) Analysis:

Interface meters:

(i) The Supplier shall own all interface meters installed at the points of inter connection for the purpose of electricity accounting and billing.

(ii) As per 2(1) (w) of CEA Regulation cited in reference (1), 'Supplier' means any generating company or licensee from whose system electricity flows into the system of another generating company or licensee or consumer.

(iii) From the above, a Supplier can be a generating company, transmission licensee or a distribution licensee from whose system electricity flows into the system of another generating company or licensee or consumer.

(iv) If a consumer is connected to the Distribution system, the Distribution Licensee will become supplier and shall own the meter. If a consumer is connected to the transmission system, the Transmission Licensee being the supplier shall own the meter.

(3) Directive:

The Distribution Licensees or Transmission Licensees or Generating Companies, being Suppliers, shall own all interface meters and maintain the meters and allied equipment. Maintenance includes rectification, replacement of defective meters and allied equipment by the Supplier.

5. Interface Meters and cost bearing mechanism:

Provisions in CERC Open Access Regulations, 2008 cited in reference (3) are extracted hereunder:

(a) Definition of Intra-state entity;

"2 (1) (h) "intra-State entity" means a person whose metering and energy accounting is done by the State Load Despatch Centre or by any other authorized State utility;"

(b) Special Energy Meters;

"22.(1) Special Energy Meters shall be installed by the Central Transmission Utility for and at the cost of the regional entities and by the State Transmission Utility or the distribution licensee as the case may be, for and at the cost of the intra-State entities."

(c) Analysis:

(i) As per the definition of "Intra-state entity", the State Load Despatch Centre (SLDC) does energy accounting for all open access consumers and Distribution Licensees (Distribution Licensees). Hence, all open access consumers and Distribution Licensees will become Intra-state entities.

(ii) As per the definition of "Special Energy Meters", the State Transmission Utility (STU) or Distribution Licensee as the case may be, shall install meters for and at the cost of the intra State entities, i.e., Open Access users (intra-state entities).

(d) Directive:

The STU or Distribution Licensee as the case may be, shall procure meters for and at the cost of the intra-State entities, i.e., Open Access users. The responsibility of installing interface meters lies with the STU or Distribution Licensee *as the case may be.*

The STU or Distribution Licensee as the case may be, shall communicate estimated cost to carry out works related to installation of Interface meters within seven days from the date of receipt of application from the applicant, who seeks open access. The Licensee shall complete installation of metering equipment, including meter testing within one month from the date of receipt of full payment.

Alternatively, the STU or Distribution Licensee as the case may be, is entitled to receive monthly meter rent as approved by the Commission, if metering and allied equipment is provided without requiring security from the consumer.

6. Responsibility of Meters testing:

(a) Clause 18(1) (a) of CEA regulation reads as follows:

"18 (1)(a) At the time of commissioning, each interface meter shall be tested by the owner at site for accuracy using standard reference meter of better accuracy class than the meter under test."

(b) Analysis:

As per clause 18(1)(a) of CEA Regulation, the responsibility of meter testing lies with the Licensee. The Licensees do not possess accreditation from "National Accreditation Board for Testing and Calibration Laboratories (NABL)", Govt. of India for their

laboratories. In the absence of NABL accreditation, the Licensees are not authorized to test and calibrate the meters.

(c) Directive:

The Licensees (Transmission Licensees and Distribution Licensees) shall get accreditation of NABL for their laboratories. The responsibility of meter testing lies with the Licensee. The Licensees shall test the meters for accuracy on their own or get tested the meters by NABL accredited laboratories. The Licensees shall not levy any charge for meter testing. However, if a consumer requests meter testing to verify its accuracy in his own interest, in such case, the Licensee is entitled to collect meter testing cost from the consumer.

7. Location of interface meters for Generating Stations/Captive Power Plants

(a) Relevant provisions in CEA Regulation cited in reference (1) are extracted hereunder:

Clause 7 (1) (a) of CEA Regulation reads as follows:

"7. LOCATION OF METERS: (1) Interface meter:- (a) The location of interface meters shall be as specified in Table-1

Provided that the location of main, check and standby meters installed at the existing generating stations shall not be changed unless permitted by the Authority:

Provided further that the generating companies or licensees may install meters at additional locations in their systems depending upon the requirement.

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1. Generating Station:

Main meter - on all out going feeders of Generating Station.
Check meter – on all out going feeders of Generating Station.
Standby meter - (i) High voltage (HV) side of Generator Transformer.
(ii) High voltage (HV) side of all station auxiliary transformers."

(b) Directive:

All Generating stations shall install all interface meters i.e., Main Meter, Check Meter and Standby Meter as mentioned in 7(a) of this Practice Directions.

8. Location of Interface meters

[2](Applicable for both Open Access consumers and schedule consumers who have to be covered under ABT and have been permitted open access by the Commission)

[2] Amended vide Practice Directions No. APERC/01/2016, Dt: 05-02-2016

(a) Clause 7 (1) (4) of CEA Regulation reads as follows:

(i) "Consumer directly connected to the Inter-State Transmission System or Intra-State Transmission System who have to be covered under Availability Based Tariff and have been permitted open access by the Appropriate Commission.

(ii) For consumers connected to distribution system and permitted open access by the Appropriate Commission.

(iii) Any other system not covered above."

(b) <u>Analysis:</u>

As per CEA Regulations, the ownership always lies with the STU or Distribution Licensee, as the case may be.
The Commission examined the provisions of CEA Regulations and the powers vested to it therein in respect of location of Open Access consumer interface meters and decided the following locations:

Location of main meter: At Consumer premises.
Location of check meter: At Consumer premises, connected to the same core of CT and VT to which main meter is connected.

Location of Standby meter: At consumer premises on a separate CT and VT [3](Option of Consumer).

[Deleted]

[4]While fixing meters, the Licensees shall provide the following class of accuracy meters for all Consumer meters;

Voltage level	Accuracy
Up to 650 volts	1.0 or better
Above 650 volts and up to 33 kilo volts	0.5S or better
Above 33 kilo volts	0.2S or better

All Interface meters shall be of 0.2S accuracy class.

<u>Accuracy Class of Connecting Current Transformers (CTs) and Voltage Transformers (VTs):</u>

As per the BIS standards, the CT to have accuracy class generally one index better than that of the meter and Voltage Transformer to have accuracy class similar to that of the meter accuracy.

9. Location of meters - Dedicated Feeder

[3] Amended vide Practice Directions No. APERC/01/2016, Dt: 05-02-2016
[4] Amended vide Practice Directions No. APERC/01/2016, Dt: 05-02-2016

The provisions mentioned in Clause 2 (f) of Regulation No.4 of 2013 are observed to be inconsistent with the Tariff Order and GTCS provisions. The condition to avail power supply to the extent of 50% of the line capacity is contradicting the Tariff Order conditions.

Apart from the above, the licensees are facing space constraints in the substations to erect three interface meters viz., Main Meter, Check Meter and Standby Meter. The security of meters and allied equipment "Seals" is also important. The consumers may not take the responsibility, for loss of meter seals and any mal functioning of meters.

In view of the above, to remove difficulties faced by Consumers and Licensees', the Commission decided to delete the clause 2 (f) and clause 7(3) of Regulation No.4 of 2013. The necessary amendments to the Regulation No 4 of 2013, will be made in due course of time.

Location of meters:

The Commission examined the issue of location of meters for dedicated feeders and decided the metering locations as follows:

Location of main meter: At consumer premises.

Location of check meter: At consumer premises, connected to the same core of CT and VT to which main meter is connected.

Location of Standby meter: At consumer premises on a separate CT and VT or at Licensee's substation as mutually agreed.

10. Issue of reading open access meters:

The meters of HT services are being read on 20th to 23rd of every month. The inter-state open access billing settlement is done as per the calendar month i.e., from 1st to end of the month. As the billing dates for open access consumers and Distribution Licensee consumers are different, the energy settlement is becoming more cumbersome.

To avoid difficulties in energy settlement and related billing issues, it will be good if interface meters (open access meters) are read in line with the meter reading dates of inter-state meters i.e., 1st of every month.

Directive:

The HT service meters are being read on 20th to 23rd of every month, whereas inter-state open access billing settlement is done based on calendar month. To avoid difficulties in implementing the energy settlement, the Distribution Licensees/Transmission Licensees, shall read all interface meters of HT services on 1st of every month.

11. Sealing of Meters:

Sealing of interface meters shall be done by both the supplier and buyer, as per the provisions mentioned under Clause 12 (1) (a) (i) of CEA (Installation and Operation of Meters) Regulations, 2006.

12. Installation of Special Energy Meters (SEM) for 1 MW and above services:

The Distribution Licensees/Transmission Licensees may install Special Energy Meters for 1 MW and above HT services, for both existing and prospective consumers subject to willingness of such consumers for cost bearing mechanism as mentioned in Para 5 supra.

13. This order will come into force with effect from 15-02-2015.

(BY ORDER OF THE COMMISSION)

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SECRETARY