

## CENTRAL ELECTRICITY AUTHORITY

New Delhi, the 4th June 2010

No.502/6/2009/DP&D/D-I. In exercise of the powers conferred by sub-section (1) of section 55 and clause (e) of section 73 read with sub-section (2) of section 177 of the Electricity Act, 2003 (No. 36 of 2003), the Central Electricity Authority, hereby makes the following regulations to amend the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, namely:-

**1.Short title and commencement.** - (1) These regulations may be called the Central Electricity Authority (Installation and Operation of Meters) Amendment Regulations, 2010.

(2) These regulations shall come into force on the date of their publication in the Official Gazette.

2. In the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 (hereinafter referred to as the said regulations) for regulation 7 the following regulation shall be substituted, namely:-

**“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.

Table -1

Sl. No.	Stages	Main meter	Check Meter	Standby meter
(1)	(2)	(3)	(4)	(5)
1.	Generating Station	On all outgoing feeders	On all outgoing feeders	(i)High Voltage (HV) side of Generator Transformers (ii)High Voltage side of all Station Auxiliary Transformers

				Transformers
2.	Transmission and Distribution System	At one end of the line between the substations of the same licensee, and at both ends of the line between substations of two different licensees. Meters at both ends shall be considered as main meters for respective licensees.	-	There shall be no separate standby meter. Meter installed at other end of the line in case of two different licensees shall work as standby meter.
3.	Inter-Connecting Transformer	High Voltage side of Inter-Connecting Transformer	-	Low Voltage side of Inter-Connecting Transformer
4.	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  or  For consumers connected to distribution system and permitted open access by the Appropriate Commission.  or  Any other system not covered above	As decided by Appropriate Commissions.		

(b) The scheme for location of interface meters shall be submitted to the Central Transmission Utility or the State Transmission Utility or the licensee by owner of the meter in advance, before the installation of the scheme .

(2) **Consumer meter.-** (a) The consumer meter shall be installed by the licensee either at the consumer premises or outside the consumer premises:

Provided that where the licensee installs the consumer meter outside the premises of the consumer then the licensee on a request from consumer shall provide real time display unit at the premises of the consumer for his information to indicate the electricity consumed by the consumer:

Provided further that for the purpose of billing, the reading of consumer meter shall be taken into account.

- (b) The location of meter and height of meter display from floor shall be as per Indian Standard on Testing, Evaluation, Installation and Maintenance of ac Electricity Meters – Code of Practice.
- (c) For outdoor installations, the meters shall be protected by appropriate enclosure of level of protection specified in the Indian Standard on Testing, Evaluation, Installation and Maintenance of ac Electricity Meters – Code of Practice.
- (3) **Energy accounting and audit meter.-** The Energy accounting and audit meters shall be installed at following locations to facilitate the accounting of the energy generated, transmitted, distributed and consumed in various segments of the power system and the energy loss, namely:-

- (i) **Generating Stations.-**(a) at a point after the generator stator terminals and before the tap-off to the unit auxiliary transformer(s),
  - (b) on each incoming feeder of 3.3 kV and above.
  - (c) low voltage side of each incoming transformer feeder of low voltage (415 V) buses, and
  - (d) on all high tension motor feeders.

Provided that in case, numerical relays having built-in feature of energy measurement of requisite accuracy are provided in high voltage or low voltage switchgear, separate energy meter is not necessary.

- (ii) **Transmission system.-** all incoming and outgoing feeders (if the interface meters do not exist)
- (iii) **Distribution system.-** (a) all incoming feeders(11 kV and above)
  - (b) all outgoing feeders (11 kV and above)
  - (c) sub-station transformer including distribution transformer- Licensee may provide the meter on primary or secondary side or both sides depending upon the requirement for energy accounting and audit.

### 3. In the Schedule to the said regulations.–

(a) in part I, for paragraph (2), the following paragraph shall be substituted namely:-

“ (2) **Specification of Meters.**

<b>Standard Reference Voltage</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S										
<b>Voltage Range</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S										
<b>Standard Frequency</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S										
<b>Standard Basic Current</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S  (Current range of consumer meters shall be so chosen as to record the load current corresponding to the sanctioned load)										
<b>Accuracy Class</b>	Meters shall meet the following requirements of Accuracy Class: <table border="1" data-bbox="805 1150 1378 1465"> <tr> <td data-bbox="805 1150 1081 1188"><b>Interface meters</b></td> <td data-bbox="1088 1150 1378 1188">0.2S</td> </tr> <tr> <td colspan="2" data-bbox="805 1197 1378 1255"><b>Consumer meters</b></td> </tr> <tr> <td data-bbox="805 1255 1081 1293">Up to 650 volts</td> <td data-bbox="1088 1255 1378 1293">1.0 or better</td> </tr> <tr> <td data-bbox="805 1293 1081 1394">Above 650 volts and up to 33 kilo volts</td> <td data-bbox="1088 1293 1378 1394">0.5S or better</td> </tr> <tr> <td data-bbox="805 1394 1081 1465">Above 33 kilo volts</td> <td data-bbox="1088 1394 1378 1465">0.2S or better</td> </tr> </table> <p data-bbox="805 1474 1378 1507"><b>Energy Accounting and audit meters</b></p> <ol data-bbox="805 1537 1378 1913" style="list-style-type: none"> <li>1) In generating stations, the accuracy class of meters at a point after the generator stator terminals and before the tap off to the unit auxiliary transformer(s) shall not be inferior to that of 0.2S accuracy class. However, the accuracy class of other meters shall not be inferior to that of 1.0S accuracy class.</li> <li>2) The accuracy class of meters in transmission system shall not be</li> </ol>	<b>Interface meters</b>	0.2S	<b>Consumer meters</b>		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
<b>Interface meters</b>	0.2S										
<b>Consumer meters</b>											
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										

	<p>inferior to that of 0.2S accuracy class.</p> <p>3) The accuracy class of meters in distribution system shall not be inferior to that of 0.5S accuracy class.</p>
<b>Starting Current and Maximum Current</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S
<b>Power Factor</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S
<b>ac Voltage test</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S
<b>Impulse Voltage Test</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S
<b>Power Consumption</b>	As per Indian Standard for ac Static watt-hour meters, Class 1 and 2, and Indian Standard for ac Static transformer operated watt-hour and VAR-hour meters, class 0.2S, 0.5S and 1.0S

(b) In Part III, in sub-para (b) of paragraph (1), after item (vi) the following shall be inserted, namely:-

- (vii) Cumulative apparent energy (kVAh)
- (viii) Any other parameter required for tariff application or analysis .

(c) In Part IV, paragraph (2) after item (j), the following shall be inserted, namely:-

- (k) Cumulative apparent energy (kVAh)
- (l) Any other parameter required for tariff application or analysis.

**Secretary**  
**Central Electricity Authority**

**Foot note- The principle regulations were published in the gazette of India vide No 502/70/CEA/DP&D dated 17<sup>th</sup> March 2006**