

## **CIRCULAR NO-8**

### **Subject: Standard CT ratios for Metering in respect of HT consumers.**

As per present metering policy adopted in MSEDCL, installation of commensurate metering CTs is necessary for release of new HT connections. In case of load reduction and enhancement cases existing CTs are being allowed if full load current of new Contract Demand is within accuracy limits i.e.20% to 120% of existing CT's rated primary current (ref IS 16227(part2):2016). However, after availability of the required commensurate CTs, the existing CTs are replaced by commensurate CTs. In case of Generators and Open Access Consumers commensurate metering is mandatory. In case of single point connectivity policy of MSEDCL, higher ratio CTs are being considered for startup power connections having lower Contract Demand in r/o Generators subject to levy of CT error compensation factor on monthly total import units and on KVA MD.

Presently the standardized CT ratios up to 33KV level are as follows:-400/5A, 300/5A, 250/5A, 200/5A, 150/5A, 100/5A, 50/5A, 25/5A, 10/5A and 5/5A.

In this regard, in FY 2024-25, as per Multi-Year Tariff order 322 of 2019 dated 30.03.2020 has also considered the gradual increase of Billing Demand by 5% per year upto threshold limit of 75%, thus, consumers will maintain their Demand as close as possible to its Contract Demand.

As per the prevailing practice, for releasing new connections or reduction/enhancement cases, S.E.(O&M) of the Circle is responsible for providing CTs of commensurate ratios. In order to provide commensurate CTs with respect to the Contract Demand, inventory of above CT ratios in large quantity is required to be maintained which is inapt & exorbitant affair.

Further to facilitate the prime consumers, MSEDCL has provided many online services to consumers like New Connection Request, Change in Load etc. Simplifications & standardization in metering & its CT ratio will also help for effective implementation of such services.

In view of above, the competent authority has accorded approval to review the standard CT ratio and to revise policy so as to minimize the inventory of metering equipments required for release of HT connections.

Accordingly, it is to inform that the competent authority has accorded approval in the matter as below:-

1) The Standard CT ratio of 250A and 150A are removed from the standard CT ratios upto 33KV to be utilized in MSEDCL. The revised Standard CT ratios to be used for release of load (i.e. New/Reduction/Enhancement) upto 33KV level in r/o HT connections shall be as below:-

400/5A, 300/5A, 200/5A, 100/5A, 50/5A, 25/5A, 10/5A and 5/5A.

2) The concerned SE Testing/EE Testing shall approve CT ratios as per contract demand as follows:-

- a. For Prospective (New) HT consumers and enhancement of contract demand of existing HT consumer, Commensurate CT ratio is to be finalized for given range of Contract Demand as shown in Table 1. While proposing metering specification for new HT connections, no deviation shall be allowed.
- b. For Reduction of Contract Demand of existing HT consumers, Contract Demand range is finalized by considering reduction upto 40% of rated primary current of the existing CT. Refer Table 1 for voltage level wise Contract Demand and Standard CT ratios.

Table: 1

Voltage level	As per SoP Circular 224 Contract Demand allowed	Available Std. CT's Amp	CD allowed as per 100% loading kVA	Revised Standardisation of CTR	Range of Contract Demand for New HT Connections and Enhancements of Load	For Load Reduction (Allowing limit upto 40% of CT ratio only)
11Kv	Upto 5000kVA	5	95	--	--	--
		10	191	10	Upto 200kVA	upto 80kVA *
		25	476	25	201 to 500kVA	upto 188kVA
		50	953	50	501 to 1000kVA	upto 380kVA
		100	1905	100	1001 to 2000kVA	upto 760kVA
		200	3811	200	2001 to 4000kVA	upto 1500kVA
		300	5716	300	4001 to 5000kVA	upto 2300kVA
22kv	Upto 10000kVA	5	191	5	Upto 200kVA	upto 80kVA *
		10	381	10	201 to 400kVA	upto 150kVA *
		25	953	25	401 to 1000kVA	upto 350kVA
		50	1905	50	1001 to 2000kVA	upto 750kVA
		100	3811	100	2001 to 4000kVA	upto 1500kVA
		200	7621	200	4001 to 8000kVA	upto 3000kVA
		300	11432	300	8001 to 10000kVA	upto 4500kVA
33kv	Upto 20000kVA	50	2858	50	3000kVA *	upto 1150kVA
		100	5716	100	3001 to 6000kVA	upto 2300kVA
		200	11432	200	6001 to 12000kVA	upto 4600kVA
		300	17147	300	12001 to 18000kVA	upto 6900kVA
		400	22863	300	18001 to 20000kVA	upto 9150kVA

*\*As per Guidelines issued vide Commercial Circular No 291, all Non SoP cases, viz; new load request, Start Up power, Single point connectivity shall be approved by Competent Authority at HO. The CT Ratio of such exceptional cases and the cases not covered in the table such as non commensurate CT which may attract CT error compensation factor(if required) etc, will be decided by CE (Testing).*

- 3) In case of change in load, if the Contract Demand is within limit of specified range for the existing CT as specified in above table, the existing CT may be continued. Otherwise, the revised Standard CT ratio is to be finalized by the concerned SE Testing/ EE Testing as applicable for New Consumer.
- 4) For changes in contract demand below 1MVA in reduction cases, replacement of CT shall not be proposed for a mere change in accuracy class i.e. from 0.2 S to 0.5 S, unless change in CT ratio is required. However, if accuracy class of CT is old i.e. 0.5, then in any case change in CT shall be proposed as per table1.
- 5) In EHV cases as per present practice, the metering specifications shall be decided by S.E.(TQA) on case to case basis and concerned S.E.(O&M) shall arrange for case wise procurement in consultation with MSETCL authorities and in co-ordination with the EHV Consumer if required.
- 6) S.E.(O&M) Circle shall make the necessary budget provision for the financial year for providing metering in r/o HT & EHV consumers under new service connection scheme.
- 7) Metering CT ratios shall be commensurate with the Contract Demand in r/o Generators and Open Access consumers. In start-up cases CT error factor shall be applicable as it is.
- 8) All other conditions of this office circular ref. no. 6412 dtd 25/02/2020, no. 8378 dtd 16/04/2018 and Comm. Circular 291 dated 29/06/2017 shall remain applicable.

This circular shall come in force with effect from the date of issuance. This circular is available on MSEDCL website i.e. [www.mahadiscom.in](http://www.mahadiscom.in) . So hard copy of the same shall not be issued.

  
**Dr. Manish Wadhwa**  
**Chief Engineer (Testing)**