

Ref. No: MSEDCL/Comments/DSM 5<sup>th</sup> Amendment/ No 1 2 4 4 7 Date:

15 MAY 2019

To,  
The Secretary,  
Central Electricity Regulatory Commission,  
3<sup>rd</sup> & 4<sup>th</sup> Floor, Chandralok Building,  
36, Janpath, New Delhi – 110001.

**Subject:** Submission of comments/ suggestions/ objections on draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2019.

**Reference:** Public Notice by CERC for Draft 5<sup>th</sup> Amendment to DSM Regulations.

Respected Sir,

This is in reference to public notice issued by Hon. CERC on 5<sup>th</sup> amendment of Deviation Settlement Mechanism and related matters, Regulations. In this regards, MSEDCL is making the following submission as below, which may kindly be considered.

**MSEDCL's submission:**

**A) Amendment of Regulation 5 (Charges for Deviations) of the Principal Regulations:**

a) Clause (3) of Regulation 5 of the Principal Regulations shall be substituted as under:

*"The Cap rate for the charges for deviation for the generating stations, irrespective of the fuel type and whether the tariff of such generating station is regulated by the Commission or not, shall not exceed 303.04 Paise/kWh."*

**MSEDCL Comments**

Incase of under injection at lower frequency, at least below IEGC band, DSM rate for generator shall not be capped to discourage the generator to under inject at low frequency as well as to mandate generator for RGMO compliance. It is expected that generator must react to frequency dip by increasing generation automatically through RGMO operation.

Further it may be possible that merchant generator as well as generating station regulated by the Commission having variable cost more than 303.04 Paise/kWh will tend to under-inject at frequency where DSM rate is more than 303.04 Paise/kWh. Hence to discourage such tendency, it is necessary that no cap for under-injection at low frequency shall be kept. The analysis done on over-injection and under-injection of some of generating station on the basis of Market Monitoring report of CERC for month of March-2019 and Feb-2019 is attached herewith as **Annexure-A**. It can be seen that under-injection quantum is more than over-injection for most of the generators.

**B) Amendment of Regulation 7 (Limits on Deviation volume and consequences of crossing limits) of the Principal Regulation:**

- a) Clause (6) of Regulation 7 of draft DSM (5th Amendment) (Deviation and Settlement Mechanism), the CERC has proposed the Cap Rate for additional charges for deviation for over-drawl or under injection of electricity when grid frequency is below 49.70 HZ as under

*"In Proviso to clause (6) of Regulation 7 of the Principal Regulations, the words "Cap Rate equivalent to the energy charges as billed for the previous month" shall be substituted by the words "Cap Rate of 303.04 Paise/kWh"*

**MSEDCL Comments**

DSM rate for generator shall not be capped as it will discourage generator to over inject at low frequency as well as to mandate generator for RGMO compliance. It is expected that generator must react to frequency dip by increasing generation automatically through RGMO operation.

- b) Clause (10) of Regulation 7 draft DSM (5th Amendment) (Deviation and Settlement Mechanism), the CERC has proposed as under:

*"In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity (buyer or seller), such entity shall correct its position in the manner as specified under clauses (a) and (b) of this Regulation.*

- (a) *Up to 31.03.2020, if the sustained deviation from schedule continues for 12 time blocks, the regional entity (buyer or seller), shall correct its position by making the sign of its deviation from schedule changed or by remaining in the range of +/- 10 MW with reference to its schedule, at least once, latest by 13th time block*

*Provided that each violation of the requirement under this clause shall attract an additional charge of 10% on the time block DSM payable / receivable as the case may be.*

- (b) *From 01.04.2020, if the sustained deviation from schedule continues for 6 time blocks, the regional entity (buyer or seller), shall correct its position, by making the sign of its deviation from schedule changed or by remaining in the range of +/- 10 MW with reference to its schedule, at least once, latest by 7th time block.*

*Provided that violation of the requirement under this clause shall attract an additional charge as specified in the table below:*

<i>No. of violations in a Day</i>	<i>Additional Charge Payable</i>
<i>From first to fifth violation</i>	<i>For each violation, an additional charge @ 3% of daily base DSM payable / receivable</i>
<i>From sixth to tenth violation</i>	<i>For each violation, an additional charge @ 5% of daily base DSM payable / receivable</i>
<i>From eleventh violation onwards</i>	<i>For each violation, an additional charge @ 10% of daily base DSM payable / receivable</i>

*Provided further that counting of number of sign change violations under clauses (a) & (b) of this Regulation shall start afresh at 00.00 Hrs. for each day.*

#### **MSEDCL Comments**

The range +/- 10MW shall not be constant irrespective of schedule & same need to be based on quantum of schedule and also needs to be distinguished on the basis of RE rich state. The States like Sikkim, Nagaland and Manipur is having peak demand in the range of 111 to 194 MW vis-a-vis Maharashtra's demand of 21500 MW. Hence, +/-10 MW deviation for the referred states is around 5% to 9% against their demand and this +/-10 MW is hardly 0.05% for Maharashtra against its demand. Hence, it is proposed that CERC may consider revising the deviation quantum of +/- 10 MW by linking to % demand of respective states or slab wise different deviation quantum may be considered as under:

Range of Demand in MW	Deviation Limit in (+/-) MW
100 to 1000	5
1000 to 2000	10
2000 to 5000	20
5000 to 10000	40
10000 to 15000	60
15000 to 20000	80
20000 to 25000	100

The proposed compulsion of sign change should not be made applicable till resolution of following issues:

- i. Hon'ble CERC in SOR published with draft DSM (5th Amendment) (Deviation and Settlement Mechanism) has mentioned that  
*"any mismatch between the SCADA and SEM meter data must be resolved by coordinating with the entity responsible for maintaining such infrastructure"*.

It is to mention that real time monitoring is done on drawl data visible on SCADA screen and is different than actual billed data. Hence specific directives from Hon'ble Commission need to be issued to both SLDC &

CTU/STU to develop a system whereby SLDC can access actual meter data (on which DSM bills are prepared) in real time basis & unless such system is in place, said sign change violation needs to be counted only on recorded sign change in SCADA of respective SLDC and if required necessary amendment be done in the CERC(Communication System for Inter-State transmission of Electricity Regulations, 2017) wherein provision shall be done to mandate concern stakeholder to maintain accuracy of both SCADA and SEM data in the interest of secure and reliable grid operation and failure to do so, the commercial penalty if any, to any user on account DSM bills shall be passed on to concern stakeholder for not maintaining desired accuracy. Otherwise penalty on account of sign change violation to be counted only on recorded sign change in SCADA of respective SLDC. Further DSM bill calculation shall also be done on the basis of UI recorded in SCADA.

- ii. The Hon'ble Commission has notified regulation on communication system on 15<sup>th</sup> May 2017 considering the fact that Communication system forms the backbone of the inter-State transmission of electricity and smooth operation of the power system. The implementation of some of provision is yet to be done. The abstract of same is attached in **Annexure-B**. As per clause 5 of said regulation, the provision of regulation is also applicable to power system at the State level till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commissions. Although as per regulation 12 of this said regulation, all users of CTU, NLDC, RLDCs, SLDCs, STUs have to maintain the communication channel availability at 99.9% annually & 100% with back up communication system. Presently procedure for measurement of availability of communication system is not in place even after almost 2 years from notification of regulation and moreover no provision in communication regulation, which impose monetary penalty on STU/CTU for violating provision of 100% communication availability & not providing both primary & backup communication system. The responsibility of maintaining 100% availability of ISTS drawl point is with CTU/STU but since there is no monetary penalty in regulation, 100% availability of communication system with both main & backup is not being maintained on priority. This is resulting in undue loss to State DISCOM by way of huge DSM bills. The analysis of difference in computation of SCADA and SEM from 1<sup>st</sup> Jan-2019 to 28<sup>th</sup> Apr-2019 is done & it is seen that State has total financial loss of Rs.35 Crs, out of which Rs.23 Crs is without considering sign change penalty loss. The analysis of impact of SCADA on DSM bills for last 4 months is done and same is attached as **Annexure-C**. Presently almost more than 90% of time, error between drawl computed in real time on SCADA & meter (post facto) is more than  $\pm 10$  MW. Hence by giving any additional limit, DISCOMs will not get relief on DSM bills due to such error. The impact of SCADA error is almost Rs. 10 Crs per month as per present regulation. Hence, it is proposed that provision of monetary penalty shall be included in regulation for failing to maintain 100% availability of SCADA & for huge *mismatch between the SCADA and SEM meter data on which DSM bills are prepared*.
- iii. In case of generator, generation being a controllable activity, this facility of maintaining injection  $\pm 10$  MW near to schedule should not be given.

- iv. Presently, schedule of state for generators Tarapur, Kakrapara & Hydro sources such as SSP are revised on post facto basis considering actual generation & share in respective stations. But in real time, considering schedule available on RLDC website, decisions are taken. Hence levying sign change penalty by post facto revising schedule is not appropriate. Hence it is suggested that schedule of these station should not be revised on actual basis for computation of UI of Maharashtra by replacing same with actual generation.
- v. The scheduling of station having more than 50% share of one state & connected to STU network is presently governed by regulation 4(2) (c)(i) of IEGC-2010 but same is not reflected in schedule of RLDC. However being interstate transaction, for settlement of DSM bills, actual energy of such resource is considered by RPC. For example in case of Maharashtra, Pench Hydro is scheduled by Madhya Pradesh SLDC as it is having share of 66.6% & connected to MP STU network. But schedule of power from this station is not considered in real time schedule of Maharashtra State available on RLDC website. Instead, on post facto basis, actual generation in proportion of share in Pench Hydro is considered while preparing DSM bills of Maharashtra. Hence required changes need to be incorporated in regulation whereby RLDC will consider schedule of such station in real time schedule of respective state & mandate scheduling state SLDC to inform schedule/availability of such station to RLDC as per present provisions of scheduling given in regulation 6.4 of IEGC-2010 & amendment thereof.
- vi. Further, regarding penalty when frequency is above 50.05 Hz and below 49.70Hz MSEDCL proposes action as given below:

Frequency	Drawl/ injection	Action
More than 50.05 Hz	Overdrawl/ under-injection	Penalty not to be imposed for required sign change
Below 49.85 Hz	Underdrawl/ over-injection	Penalty not to be imposed for required sign change

- c) Clause (10) of Regulation 7 draft DSM (5th Amendment) (Deviation and Settlement Mechanism), the CERC has further proposed as under:

*“.....Provided also that payment of additional charge for failure to adhere to sign change requirement as specified under clauses (a) & (b) of this regulation shall not be applicable to:*

- a. renewable energy generators which are regional entities*
- b. run of river projects without pondage*
- c. any infirm injection of power by a generating station prior to CoD of a unit during testing and commissioning activities, in accordance with the Connectivity Regulations.*
- d. Any drawl of power by a generating station for the start-up activities of a unit.*
- e. any inter-regional deviations.*
- f. forced outage of a generating station in case of collective transactions on Power Exchanges.”*

### **MSEDCL Comments**

For collective transaction, violation of concerned generator in case of tripping should not be waived and concerned generator should make available the power sold in market through collective transactions as they can purchase power through intraday market, otherwise sign change violations of buyer should also be waived in case of curtailment of collective transaction on account of said reason.

Further, Renewable energy generators, which can control its generation such as Biomass, should not be excluded from this provision. Also, along with run-off River based hydro, Cannel Based Hydro Generation and Atomic Energy Generation should also be considered for exemption.

MSEDCL requests Hon. Commission to kindly consider MSEDCL's comments/ suggestions on the Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2019.

With regards,

Yours' faithfully,



(Satish Chavan)  
Director (Commercial)

Copy s.w.rs.to:

The Chairman and Managing Director, MSEDCL, Corporate Office, Mumbai – 51.

## Annexure-A

Analysis from Market Monitoring report of CERC for month of March-2019 and Feb-2019

Name of the Entity	Regional Grid Through DSM for Feb-2019			Regional Grid Through DSM for Mar-2019		
	Import (Over Drawl)	Export (Under Drawl)	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**
NTPC -ER	57.7	25.27	32.43	58.29	24.55	33.74
NTPC -WR	75.19	41.49	33.7	107.54	106.05	1.49
NTPC -SR	47.87	24.26	23.62	24.71	24.72	-0.01
GMR CHATTISGA	11.62	0.94	10.68	8.96	1.03	7.93
NETCL VALLUR	11.96	2.45	9.51	11.85	3.78	8.06
CGPL	15.11	9.31	5.81	17.36	9.63	7.73
DB POWER	7.98	1.42	6.56	7.74	1.08	6.66
GMR KAMALANGA	N/A	N/A	N/A	12.61	2.27	10.34
BALCO	4.5	1.27	3.23	5.97	2.01	3.96
DAGACHU	4.87	0.18	4.69	2.02	0.26	1.77
COASTGEN	4.71	1.97	2.74	4.37	0.87	3.5
SHREE CEMENT	3.17	0.77	2.4	3.93	1.21	2.72
TEESTA STG3	1.78	0.82	0.96	5.61	2.04	3.58
EMCO	4.63	2.01	2.62	3.53	2.24	1.28
SEMBICORP	4.79	1.94	2.85	1.89	1.76	0.13
JINDAL STAGE-II	3.78	2.48	1.3	4.05	3.41	0.64
NSPCL	3.18	2.26	0.92	3.51	2.72	0.79
ESSAR POWER	2.41	1.61	0.8	2.42	1.63	0.79
KARCHAM WANG	0	0	0	3.91	2.46	1.45
IL&FS	1.11	0.59	0.53	1.35	0.74	0.61
SKS POWER	0.63	0.35	0.28	1.12	0.38	0.74
SIMHAPURI	0.51	0	0.51	0.5	0	0.5

## Annexure\_B

clause	Action	Concerned	Timeline	Remark
7(1)(i)	Formulate communication planning criterion and guidelines for development of reliable communication system for power system of India	CEA	Within six month from Notification	No detail available on CEA Website
7(1)(ii)	Formulate and notify technical standards, cyber security requirements and protocol for the communication system for Power Sector within the country including the grid integration with the grid of the neighbouring countries	CEA	Not specified	Draft Standard Published
7(1)(iii)	Constitute and notify a Standing Committee for Communication System in Power Sector	CEA	Not specified	No detail available on CEA Website
7(2)(vii)	Procedure on Centralized supervision for quick fault detection and restoration	CTU	Within two month	No detail available on CTU Website
7(3)(i)	Issuance of the guidelines with the approval of the Commission on "Availability of Communication System"	NPC	Within two month	No detail available on CEA Website
7(3)(iii)	Monitor instances of non-compliance of communication regulations as amended from time to time and make endeavour to sort out the issues in the respective region	RPC Secretariat		Procedure to check availability & outage planning is yet to finalized by WRPC
7(4)(i)	Preparation and issuance guidelines with the approval of the Commission on the "Interfacing Requirements" in respect of terminal equipment, RTUs, SCADA, PMUs, Automatic Generation Control (AGC), Automatic Meter Reading (AMR) Advanced Metering Infrastructure (AMI), etc. and for data communication from the User's point to the respective control centre(s)	NLDC	Within sixty days from preparation of technical standard	Since CEA Technical Standard yet to finalized, same is pending
7(6)(i)	Nodal agency for integration of Communication System in the intra-State network, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in real time	SLDC	Not specified	Instead of monitoring ISTS drawal at SCADA installed at State Periphery, same is monitored on DATA from WRLDC which is CTU, sending end line data.
7(7)(i)	Planning, coordination and development of reliable communication system for data communication within a State including appropriate protection path among State Load Dispatch Centre, Area LDC, Sub-LDC and DISCOM LDC including Main and backup as applicable along with STU Substations, intra-State Generating Stations	STU	Not specified	No SCADA planned at all EHV substations yet and no backup communication system in event of failure of main communication system.



# Annexure-C

## Impact of SCADA error on DSM Bill of Maharashtra

Period	As per WRPC Bill						As per SCADA						Impact of SCADA (Rs. in Lac)
	OD Mus	UD MUS	DSM Bill W/O change penalty (Rs. In lac)	Nos of sign change Violation	Sign Change Penalty (Rs. In lac)	Net (Rs. In lac)	OD Mus	UD MUS	DSM Bill W/O Sign change penalty (Rs. In lac)	Nos of sign change Violation	Sign Change Penalty (Rs. In lac)	Net (Rs. In lac)	
01 to 10 Jan '19	17	-22	219	44	344	562	12	-35	-337	53	536	199	364
11 to 20 Jan	17	-17	167	43	208	375	13	-22	-124	33	165	41	334
21 to 31 Jan	22	-19	407	35	223	629	19	-26	185	25	82	267	363
01 to 10 Feb	18	-16	202	22	116	318	16	-19	122	13	31	153	165
11 to 20 Feb	18	-15	188	17	73	261	17	-17	110	5	17	126	135
21 to 28 Feb	21	-7	507	36	434	941	14	-10	219	6	14	233	708
01 to 10 Mar	19	-13	278	27	159	437	16	-16	59	8	36	95	342
11 to 20 Mar	18	-11	231	24	150	381	13	-15	18	6	8	26	355
21 to 31 Mar	17	-16	122	19	70	192	15	-20	-3	4	24	21	171
01 to 10 Apr	16	-17	92	21	66	158	13	-21	-100	5	10	-90	249
11 to 20 Apr	15	-17	107	26	160	268	12	-20	-22	10	44	22	245
21 to 28 Apr	8	-16	-131	18	100	-31	9	-15	-105	1	6	-99	68
<b>Total</b>	<b>208</b>	<b>-186</b>	<b>2390</b>	<b>332</b>	<b>2103</b>	<b>4491</b>	<b>169</b>	<b>-235</b>	<b>21</b>	<b>169</b>	<b>973</b>	<b>994</b>	<b>3499</b>
Average	1.8	-1.6	20.3	2.8	17.8	38.1	1.4	-2.0	0.2	1.4	8.2	8.4	29.7