



सत्यमेव जयते

भारत सरकार
 Government of India
 भारत सरकार
 Ministry of Power
 पूर्वी क्षेत्रीय बिजली समिति
Eastern Regional Power Committee
 भारतीय बिजली नियंत्रण आयोग, कोलकाता-700033
 15, Salt Lake Road, Kolkata-700033

SPEED POST



Fax Msq No-67

Tel No.:033-24239651, 24239657 FAX No.:033-24239652, 24239653 Web: www.erpc.gov.in

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The Secretary,
 Central Electricity Regulatory Commission,
 3rd & 4th Floor, Chandernagore Building,
 36, Janpath,
 New Delhi – 110 001.

Sub: Comments of ERPC Secretariat on the draft 5th CERC (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations – Reg.

Sir,

Please find enclosed the comments/views of ERPC Secretariat on the draft 5th CERC (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations in **Annexure-I**.

An alternative proposal is also enclosed at **Annexure-II** for consideration of Hon'ble Commission.

Thanking you,

Yours' Faithfully,

J. Bandyopadhyay 14/5/19
(J. Bandyopadhyay)
 Member Secretary

ANNEXURE-I**Comments on draft amendment (5th) of DSM Regulations**

- Clause 4.3 states that “.....Additional Charge for Deviation shall be applicable for over-injection/under-drawal of electricity for each time block by a buyer/seller as the case may be when grid frequency is 50.10Hz and above at the rates equivalent to charges of deviation corresponding to the grid frequency of 'below 50.01 Hz but not below 50.0 Hz', or cap rate for deviation of 303.04 paise/kwh whichever is lower”.

Comment:

Applicability of Cap rate of 303.04 Paise/kwh for buyer needs to be clarified by the Hon'ble Commission.

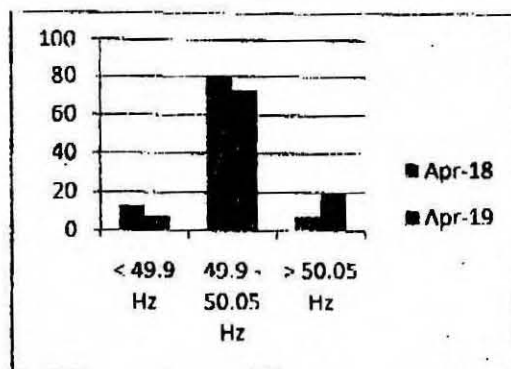
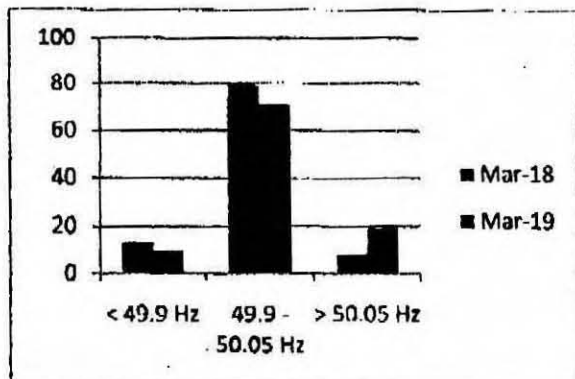
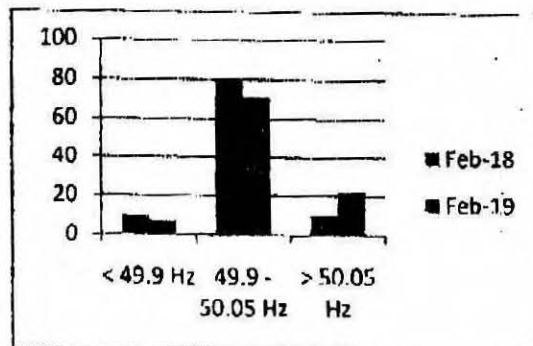
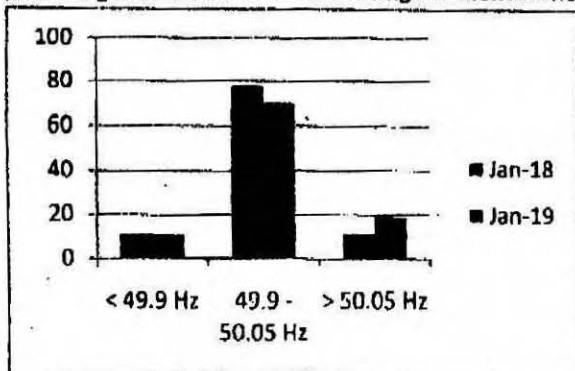
- Under Clause 4.5, in order to address the concern of the stakeholders with regard to sign change violation the following relaxations have been proposed:
 - Firstly up to 31.03.2020, allowable nos. of time blocks for sustained deviation have been increased to 12 from existing 6. In addition to this a band of +/- 10MW has been created with Schedule as the reference such that if a regional entity succeeds in staying within this band, at least once in a time block, latest by 13th time block then no sign change penalty shall be imposed. For violation, an additional charge of 10% of time block DSM payable/receivable shall be levied.
 - Secondly w.e.f 01.04.2020, the maximum allowable nos. of time blocks for unidirectional deviation shall be brought back to existing 6 and penalties have been proposed to be increased as per nos. of violations and shall be payable at certain percentage of daily base DSM receivable/payable by the regional entity.

Considering the above proposed amendments, our comments are based on the following issues:

1. **ALLOWABLE BAND OF +/- 10MW WITH REFERENCE TO SCHEDULE:** This will undoubtedly give a lot of relaxation to small regional entities like Sikkim (having schedule in the range of 100-110MW), Rangit HEP (having installed capacity of 60MW) etc in Eastern Region. On the other hand, the state of Bihar having schedule in the range of 3000-4000MW in a time block and with negligible internal sources of generation may find it extremely difficult to implement this provision. If this allowable quantum of deviation with reference to schedule is viewed in percentage terms, then it may be quite significant for small regional entities (may be far more than even 10%) whereas for large entities it may be miniscule. Hence we propose that this allowable quantum of deviation with reference to schedule for the purpose of determining sign change violation may be considered as +/- 10MW or +/- 1% of Schedule of the time block, whichever is higher. Moreover, for large regional entities having metering points in excess of 40 are likely to have greater error in the cumulative actual readings as recorded by SEM and reported by SCADA as compared to small regional entities having less nos. of metering points. Hence this may also be taken into consideration.
2. **FREQUENCY PROFILE:** 4TH amendment to DSM Regulations have been in force with effect from 01.01.2019. Hence monthly frequency profile data for the period from Jan-19 to Apr-19 (period of 4 months after implementation of 4th Amendment to DSM Regulations) and the same for the period from Jan-18 to Apr-18 have been retrieved from the website of NLDC, POSOCO and compared. The results are reproduced below:

Freq (Hz)	JAN-18	JAN-19	FEB-18	FEB-19	MAR-18	MAR-19	APR-18	APR-19
< 49.9	11.15	10.69	9.69	7	12.99	9.44	12.8	7.32
49.9 – 50.05	77.94	70.25	80.25	70.73	79.28	71.17	79.54	73.13
> 50.05	10.92	19.06	10.06	22.26	7.72	19.39	7.63	19.55

(Above figures denote % of time during the month when grid frequency was in a particular range)



On analysing the above figures the following conclusions can be made:

- For each month after the implementation of 4th amendment to DSM Regulations, the percentage of time during the month when the grid frequency is within the IEGC band (49.9Hz to 50.05Hz) has been reduced by about 7 – 10% as compared to that of the same month of previous year
- For each month after the implementation of 4th amendment to DSM Regulations, the percentage of time during the month when the grid frequency is on the higher side (> 50.05Hz) has almost doubled (sometimes more than doubled as in the months of Mar-19 and Apr-19) as compared to that of the same month of previous year
- For each month after the implementation of 4th amendment to DSM Regulations, the percentage of time during the month when the grid frequency is on the lower side of IEGC band (< 49.9Hz) has reduced marginally as compared to that of the same month of previous year
- There is probably greater tendency amongst the beneficiaries/buyers to maintain their drawal within schedule (under draw) since they have become wary of paying very high deviation charges due to imposition of sign change penalty, whereas the penalty imposed on generators has a capped value which is significantly lower than that of buyers/beneficiaries. As a result buyers/beneficiaries try to remain below the drawal schedule whereas the generators/sellers tend to remain on the schedule or just above it. This creates an imbalance between generation & load. This gets reflected in overall high frequency in the system.

Initially, the existing DSM Regulations, was implemented as UI along with ABT mechanism throughout the country. The main objective was to arrest the wide excursion of grid frequency on either side by offering financial incentives/disincentives by various provisions of UI Regulations. In subsequent amendments, the IEGC band have been tightened and stricter provisions have been incorporated. However, in the 4th amendment, the implementation of sign change violation penalty for sustained deviation for a specific period has been completely delinked with grid frequency. Hence this is sometimes contradicting with main objective with which the UI mechanism was initially implemented. Further, if all or majority of utilities begin to fully comply with the sign change clause, then it may actually deteriorate the grid frequency profile.

3. **QUANTUM OF PENALTY ON ACCOUNT OF SIGN CHANGE VIOLATION:** In the proposed 5th amendment, not only the period of sustained deviation has been increased from 6 to 12 time blocks (for the period up to 31.03.2020) but the quantum of additional charges payable by a violating entity has also been reduced substantially. The proposed quantum of penalty for sign change violation for the period w.e.f 01.04.2020 has also been reduced substantially. This coupled with the tendency of the utilities to maintain their drawal within schedule may result in much less receipt in regional DSM Pool which in turn may create problems for RLDCs to meet the obligation of payments to RRAS providers from regional DSM Pool. In support of this argument, we have prepared the DSM Accounts of two weeks i.e. 01.04.2019 – 07.04.2019 & 08.04.2019 – 14.04.2019 as per the proposed 5th Amendment to the DSM Regulations and compared the results obtained with that of the Issued statements for the same period as per existing 4th Amendment. The results are tabulated below:

	Sign Change Violation Penalty in lakhs			
	010419-070419		080419-140419	
	4th Amend	5th Amend	4th Amend	5th Amend
Buyers				
BSPHCL	33.27925	0.37722	41.58869	0.17426
JUVNL	215.79	0.43183	93.45416	0.16583
DVC	142.63614	0.89083	32.91107	0.12049
GRIDCO	50.03117	0	76.68422	0.12147
SIKKIM	37.18251	0	34.69846	0.03219
WBSETCL	148.43183	0.28241	56.02858	0.2141

	Sign Change Violation Penalty in lakhs			
	010419-070419		080419-140419	
	4th Amend	5th Amend	4th Amend	5th Amend
Generators				
FSTPP-I & II	18.90739	0	8.7562	0
KHSTPP-I	1.32816	0	1.84329	0
BARH	11.3454	0	6.00032	0
BRBCL	152.72218	0.56661	5.83523	0.0132
THEP	6.16902	0	2.97912	0
TUL	10.92672	0	18.49203	0

	Violation of Block wise volume limit penalty in Lakhs			
	010419-070419		080419-140419	
	4th Amend	5th Amend	4th Amend	5th Amend
Buyers				
BSPHCL	229.13587	111.76686	54.55824	32.05173
JUVNL	104.59287	25.67594	26.57935	15.32535
DVC	53.43062	34.59683	14.24889	7.59829
GRIDCO	23.98244	16.98053	59.27623	53.87629
SIKKIM	14.75893	2.33301	5.09707	1.51534
WBSETCL	308.34463	69.23372	34.96752	15.08446

Generators	Violation of Block wise volume limit penalty in Lakhs			
	010419-070419		080419-140419	
	4th Amend	5th Amend	4th Amend	5th Amend
FSTPP-I & II	7.00451	2.10284	7.26207	3.39064
KHSTPP-I	2.61976	1.51399	2.53979	0.32634
BARH	10.80825	0.9027	1.15375	0.47229
BRBCL	24.77909	29.16786	3.85519	3.24694
THEP	1.21159	0.12481	0.8147	0.30876
TUL	2.48341	2.18187	51.78231	51.61458

	010419-070419	
	4th Amend	5th Amend
Payable to the Pool	6830.94383	6884.40613
Receivable from the Pool	7565.67761	7590.31139
Differential Amount Arising from Capping of Generating Stations	-734.73379	-705.90526
Additional Deviation Charge due to Block wise Violation	869.2135	312.29302
Additional Deviation Charge due to sign change Violation	973.74302	2.67272
POOL BALANCE(ER)	1108.22273	-390.93952
Payable to RRAS Provider	94.21664	94.21664
Receivable from RRAS Provider	94.53347	94.53347
Payable to FRAS Provider	0.173	0.173
TOTAL POOL BALANCE(ER)	1108.36656	-390.79569

	080419-140419	
	4th Amend	5th Amend
Payable to the Pool	8204.83586	8240.56541
Receivable from the Pool	9458.9767	9466.94783
Differential Amount Arising from Capping of Generating Stations	-1254.14084	-1226.38242
Additional Deviation Charge due to Block wise Violation	309.26877	231.01565
Additional Deviation Charge due to sign change Violation	515.71702	0.90936
POOL BALANCE(ER)	-429.15505	-994.45741
Payable to RRAS Provider	172.35734	172.35734
Receivable from RRAS Provider	201.70505	201.70505
Payable to FRAS Provider	0.22125	0.22125
TOTAL POOL BALANCE(ER)	-400.02859	-965.33095

On analysing the above results, the following conclusions are drawn:

- Sign change penalty has reduced significantly on implementing proposed 5th amendment to DSM Regulations.
- Relaxation in imposition of Additional Deviation charge for Over-injection/Under-drawal between frequency 50.05 Hz & 50.10 Hz has also reduced the penalty amount significantly.
- From weekly DSM A/c of Eastern Region for the period 01st April'2019 to 14th April'2019 it is concluded that the POOL will be negative after paying RRAS & FRAS beneficiaries.

ANNEXURE-II**Alternative proposal in place of existing DSM regulation:**

To make the entire accounting process simple and effective, the existing provisions of Imposition of Additional charges for Sign change violation and violation of volume limit for deviation may be changed as proposed below:

- The volume limit for deviation (both positive deviation for Over-injection/Under-drawal as well as negative deviation for Over-drawal/Under-injection) may be made dynamic. For the 1st time block of the day (i.e. 00.00 hrs), the volume limit for deviation (positive or negative deviation) shall be 12% of Schedule of the 1st time block or 150MW whichever is less. Subsequently from 2nd time block onwards, the allowable volume limit for deviation shall decrease and shall be made zero at the 12th time block. For time blocks between 1st and 12th time blocks, the volume limit for deviation shall decrease linearly at the rate of 8.33% of Schedule of that time block or 12.5MW whichever is less.
- Additional Deviation Charges at the rate of 50% of Deviation rate of the corresponding time block shall be payable by an entity for violation of volume limit in case of over-drawal/under-injection.
- No Deviation Charges shall be receivable by an entity for violation of volume limit in case of under-drawal/over-injection.
- For sustained deviation beyond 12th time block, additional deviation charges at the rate of 100% of Deviation rate of the corresponding time block shall be payable by an entity for any negative deviation (Over-drawal/under-injection)
- For sustained deviation beyond 12th time block, no deviation charges shall be receivable by an entity for any positive deviation (Under-drawal/Over-injection)
- When an entity changes its sign of deviation (from negative to positive or vice-versa) in any of the 12 time blocks, the allowable volume limit for deviation and the applicable penalty shall then be calculated as proposed above by considering time block in which the sign change occurred as the 1st time block.
- All existing provisions of different slabs for calculation of Additional Deviation charges for violation of volume limits and sign change may be done away with.