

Comments on Draft CERC (Ancillary Services), Regulations, 2021

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Regulation No/Page	Regulation as in draft	Suggested Amendment	Reason/Comment
3 (1)/Page 3		Definition of Rate Factor may be added	It is required since it is important factor in determining the SRAS control signal.
7(1) (c)/Page 6	can provide minimum response of 1 MW;	can provide minimum response of 10 MW;	At Regional Level the SRAS Provider Minimum quantum in offer should be at least 10 MW considering the telemetry, metering errors, SCADA errors etc and to have tangible benefit at regional level.
8(3)/Page 7	Frequency Bias Coefficient (Bf) shall normally be based on median Frequency Response Characteristic during previous financial year of each region and refined from time to time.	Frequency Bias Coefficient (Bf) shall normally be based on median Frequency Response Characteristic during previous financial year and of each region will share based on the ratio of maximum demand met during previous financial year and refined from time to time.	FRC of performing region will be higher and it will get more ACE to be corrected while non performing region will have to manage lower ACE. Median FRC of the country for previous Financial Year can be picked and it can shared in ratio of Maximum Demand met in previous FY. It can be modified now as in future the ACE deployed by a Region may be required to be paid by respective region.
8/Page 7		A new para 8(6) may be added: SRAS provider will not be selected if SRAS Control Signal is less than 5 MW in Table 1 & Table 2.	Control signal less than 5 MW is not recommended due to metering & SCADA errors and would lead to voluminous computation without tangible benefit
9(5)/Page 8	The SRAS Providers that are generating stations, shall declare their variable charge upfront on monthly basis in the manner as	The SRAS Providers that are generating stations, shall declare their variable charge compensation charge upfront on monthly	SRAS-UP If SRAS is CGS and it wants to be SRAS Provider it has get NOC from its original beneficiary for particular

	<p>stipulated in the Detailed Procedure.</p>	<p>basis in the manner as stipulated in the Detailed Procedure.</p>	<p>quantum, original beneficiary will give NOC if some fixed charge liability (negotiated between generator & beneficiary) is reduced for them. Therefore with only VC, getting NOC will be very difficult. Therefore CGS will declare compensation charge (VC+ x % of FC) and this x% of FC, generator will reimburse to beneficiary who has provided NOC. Similar is the case for other ISGS, with PPA at different rates and with different terms and conditions and therefore it has to declare compensation charge. If SRAS provider gives high compensation it will not get cleared for SRAS.</p> <p>SRAS -Down</p> <p>Similarly in SRAS down there would be issues in compensation due to part load if it has to refund complete VC. Therefore it can declare compensation charge or y % of VC only has to be refunded. This Y% would take care of compensation due to part loading.</p>
<p>9(8)/8</p>	<p>In case of the generating stations whose tariff is determined by the Commission under Section 62 of the Act , the Nodal Agency shall identify the generating stations for providing SRAS, (a) on day-ahead basis, based on the capacity</p>	<p>In case of the generating stations whose tariff is determined by the Commission under Section 62 of the Act , the Nodal Agency shall identify the generating stations for providing SRAS, (a) on day-ahead basis, based on the</p>	<p>Identifying the generating stations for providing SRAS at 2300 hrs of previous day would be based on schedule given by beneficiaries and it will block the power for the original beneficiary(ies) who has surrendered power based on merit order to meet its LGB.</p>

	available after the schedule has been communicated at 2300 hrs for the next day; and	quantum offered by SRAS provider supported by NOC from beneficiary capacity available after the schedule has been communicated at 2300 hrs for the next day; and	Despite paying the FC it would not be able to use this power on intra-day which could be against PPA provisions. If it is to implemented then beneficiary(ies) would schedule higher value on D-1 and surrender in real time for it to have flexibility in real time. This would also hamper the RSD of the units which is based on close to D-1 schedules by beneficiary (ies). If some margin has to kept for SRAS reserve than it should be with NOC else it should be with FC liability.
9(8) (b)/Page 8	on real-time basis before the gate closure for incremental SRAS requirement.		How it will be done, since beneficiary can change their schedule or even avail URS till Gate Closure?
10 (2)/ Page 8	The Custom Participation Factor for each SRAS Provider shall be determined by the Nodal Agency based on the following criteria: (a) Rate Participation Factor (Ramping capability in MW/min); and (b) Cost Factor (variable charge or compensation charge, as the case may be).	The Custom Participation Factor for each SRAS Provider shall be determined by the Nodal Agency based on the following criteria: (a) Rate Participation Factor (Ramping capability in MW/min); and (b) Cost Factor (90% of variable charge or compensation charge, as the case may be).	As suggested
11(2)/ Page 10	SRAS Provider shall pay back to the Deviation and Ancillary Service Pool Account , at the rate of their variable charge or compensation charge, as the case may be, for the SRAS-Down MW quantum despatched	SRAS Provider shall pay back to the Deviation and Ancillary Service Pool Account , at the rate of their 90% of variable charge or compensation charge, as the case may be, for the SRAS-Down MW quantum	To take care of part load compensation charge and would affect the existing beneficiary(ies) and with the suggestion it will not be included in compensation account being issued by RPCs.

	for every 15 minutes time block, calculated as per clause (12) of Regulation 10 of these regulations.	despatched for every 15 minutes time block, calculated as per clause (12) of Regulation 10 of these regulations.	
11(3)/Page 10	Payment for SRAS SRAS Provider shall be eligible for incentive based on performance as per Regulation 12 of these regulations.	SRAS Provider shall be eligible for incentive based on performance as per Regulation 12 of these regulations. The regional entities who have caused the deployment of SRAS would bear Z% of the cost of incentive. This Z% would be notified by Commission each FY. Actual deployment of SRAS Up or SRAS Down would be apportioned to the overdrawing regional entities/under injecting regional entities and underdrawing regional entities/ over injecting entities based on their absolute values.	The 'Causer' for the SRAS deployment does not bear any cost for incentive payment and the root cause is not addressed. The Z% payment of incentive to be borne by 'Causer' could start with 25% and slowly can be moved to 50% based on feedback. This will instil more discipline in the Regional entities towards minimising the deviation.
Table in 12(3)/ Page 11			Suggestion given Below
19/Page 15		A new para 19(4) can be added TRAS-Down Provider shall receive commitment charges of 5 paise/kWh for the quantum of TRAS-Up cleared in the Day Ahead Market or the Real Time Market as the case may be, but not instructed to be despatched by the Nodal Agency.	Even for TRAS-Down the provider has to keep margin and may be paid commitment charge.
20(3)/Page 15	The generating stations as referred to in clause (1) of this Regulation, whose URS is	The generating stations as referred to in clause (1) of this Regulation, whose URS	90% of VC would take care of compensation issues.

	despatched as SRAS-Down shall pay back to the Deviation and Ancillary Service Pool Account in terms of clause (2) of Regulation 11 and shall be paid incentive in terms of Regulation 12 of these regulations.	is despatched as SRAS-Down shall pay back to the Deviation and Ancillary Service Pool Account in terms of clause (2) of Regulation 11 and shall be paid incentive in terms of Regulation 12 of these regulations.	
20(5)/Page 16	The generating stations as referred to in clause (1) of this Regulation, if despatched for TRAS-Down, shall pay back at the rate of their variable charges, corresponding to the quantum of TRAS-Down despatched.	The generating stations as referred to in clause (1) of this Regulation, if despatched for TRAS-Down, shall pay back at the rate of their 90% of variable charges, corresponding to the quantum of TRAS-Down despatched.	90% of VC to take care of compensation issues.
20(6)/Page 16	In case the Nodal Agency requires any generating station to provide Ancillary Services to meet the emergency conditions for reasons of grid security as per the provisions of the Grid Code, such generating station shall be compensated at the rate of the energy charge as determined under Section 62 of the Act or adopted under Section 63 of the Act, or at the rate of the compensation charge declared by the AS provider, as the case may be.	In case the Nodal Agency requires any generating station to provide Ancillary Services to meet the emergency conditions for reasons of grid security as per the provisions of the Grid Code, such generating station shall be compensated at the rate of the energy charge as determined under Section 62 of the Act or adopted under Section 63 of the Act, or at the rate of the compensation charge declared by the AS provider, as the case may be. For Emergency-Up incentive as Regulation 12 will also be paid. For Emergency -Down 10% of energy charge or compensation	For availing the services in emergency the service provider should also get the benefit of incentive and compensated for part load operation.

		charge can be retained by the generating station to take care of part load compensation.	
21(3)/Page 16	Deviation of AS Provider in every 15 minutes time block shall be calculated as under and settled as per the procedure of DSM Regulations: MWh Deviation for AS Provider = (Actual MWh of AS Provider) – (Scheduled MWh of AS Provider including TRAS MWh) – (SRAS MWh of AS Provider)	Deviation of AS Provider in every 15 minutes time block shall be calculated as under and settled as per the procedure of DSM Regulations: MWh Deviation for AS Provider = (Actual MWh of AS Provider) – (Scheduled MWh of AS Provider including TRAS MWh) – (SRAS MWh of AS Provider) <i>Where SRAS MWh of Generating station will be Actual Response (Mwh) x (1-NAC)</i>	As can be seen in Appendix II that generating station performance is being measured at generator terminal.
22/Page 17	22. Transmission charges and losses for SRAS Provider and TRAS Provider No transmission charges or transmission losses or transmission deviation charges shall be payable for SRAS and TRAS.	22. Transmission charges and losses for SRAS Provider and TRAS Provider No transmission charges or transmission losses or transmission deviation charges or compensation charges shall be payable for SRAS and TRAS.	90 % of VC to be refunded by SRAS provider will take care of compensation issues.
22/ Page 17	22. Transmission charges and losses for SRAS Provider and TRAS Provider		Transmission charges and losses of the state for embedded utility in intra state participating in SRAS & TRAS could be clarified.
Table I & Table II/21&22	Rate Factor (MW/Min)		
	<p>Rate factor is the response rate given by SRAS Provider (which can be generating station, Discom, Load, Battery etc). Regulation 7(1) (e) states <i>is capable of responding to SRAS signal within 30 seconds and providing the entire SRAS capacity obligation within fifteen (15) minutes and sustaining at least for the next thirty (30) minutes.</i> If SRAS service provider meets the above criteria the Rate factor in MW/min does not capture the response time. It can be seen SRAS Provider A, B, C, D</p>		

& E can provide 41.5, 100, 10.5, 100 & 13.2 MW/min so only criteria is MW/min and it is assumed that rate factor will be maintained for 15 minutes as per column 'k'. If the response can be achieved from cheaper SRAS service provider than why to trigger costly SRAS Provider.

Take for example two generators of P : 500 MW & Q : 2000 MW (4 x 500 MW) both have given rate factor of 1%/min, in MW it translates to 5 MW/min and 20 MW/min for P & Q respectively, the Normalised Rate Participation Factor is 0.2 & 0.8 respectively though both the generating stations rate factor is same. SRAS Provider Q will get more of AGC signal even if its energy rate is higher.

Suppose there are 100 SRAS Provider give service for 5 MW each and full response is given in 1 minute and sustained for 30 minutes, in present method these SRAS Provider will get minimal signal.

This being secondary control basically on ACE very fast response is not required and sustainability is also a criteria.

If it was Primary Reserve Ancillary Service, Rate factor was very significant and should have been considered as suggested in Table 1 & Table 2 like in case of Battery Energy Storage System.

Following is the alternate Rate Factor computation suggestion which can be used in all type of SRAS Providers

Step 1

All SRAS Provider will provide the information for Rate Factor computation

SRAS Provider	Confirmation that SRAS will respond in 30 seconds (Yes/No)	% response that will be achieved in 1 minute 30 seconds	% response that will be achieved in 5 minute 30 seconds	% response that will be achieved in 10 minute 30 seconds	Confirmation that total response will be achieved in 15 minutes and would be maintained for 30 minutes (Yes/No)
A	B	C	D	E	F

For grid operation how quickly the response is achieved is also important declaration in % response is improved way of selecting the SRAS Provider.

Like a DISCOM can give response of 100 MW and how fast it can be delivered in different time frames within the ambit of SRAS requirement.

If Column B & Column C is No, than that SRAS Provider will not be deployed.

Actual Performance of Ramp will be monitored as per Regulation 12 & action would be Taken as per Regulation 13 in case of failure in performance in respect of Rate Factor.

Option A

The Rate Factor performance can be measured separately on the above parameters and separate payment can be made with modification of table in Regulation 12

Actual performance vis-à-vis secondary control signal for an SRAS Provider	Incentive Rate (paise/kWh)	Incentive for Ramping Factor (paise/kWh)	Total
A	B	C	D = B + C
Above 95%	(+) 35	(+) 5	
70-95 %	(+) 26	(+) 4	
45-70%	(+) 18	(+) 2	
20-46%	(+) 9	(+) 1	
Below 20%	0	0	

Option B

Step 2

Compute the Rate Factor as given below

SRAS Provider	% response that will be achieved in 1 minute 30 seconds	% response that will be achieved in 5 minute 30 seconds	% response that will be achieved in 10 minute 30 seconds	Rate Factor
A	C	D	E	G
				= 0.5 x C + 0.3x D +0.2 x E

Example

SRAS Provider	% response that will be achieved in 1 minute 30 seconds	% response that will be achieved in 5 minute 30 seconds	% response that will be achieved in 10 minute 30 seconds	Rate Factor
A	C	D	E	G
P	100	100	100	100
Q	20	50	100	45
R	50	70	100	66
S	10	50	100	40
T	60	80	100	74

	<p>This Rate Factor can be utilised in column (d) of Table-1 & Table-2 In this method if any Discom or load Rate Factor can be compared with Rate Factor of Generating Station.</p>
<p>Table I & Table II/Page 21&22</p>	<p>SRAS Control Signal can be used bucket filling method based on absolute NCPF rather than on ratio of NCPF as shown in example. This would avoid voluminous computations of each SRAS Provider every 5 minutes/15 minutes and that also for very small quantum in most of the blocks. If it is done on absolute NCPF than number of computations will decrease significantly. This is more prominent in view of performance being measured from SCADA values.</p> <p>Footnote can be added that 'SRAS Control signal of less than 5 MW will not be selected and its contribution will be shared by other SRAS providers'.</p>
<p>Table I & Table II/ Page 21&22</p>	<p>Column C SRAS- Up reserve and SRAS-Down reserve shall be min (Declared reserve, Range) in case of ISGS/generating station and for others it can be just declared value.</p>