TRANSMISSION CORPORATION OF TELANGANA LIMITED
VIDYUT SOUDHA::HYDERABAD - 82
Website:www.tstransco.in CIN No.U40102TG2014SGC094248

From
The Chief Engineer
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To
The Secretary, CERC.
3 rd & 4 th Floor,
Chanderlok Building
36, Janpath, New Delhi- 110001.

Lr.No.CESLDC/SESLDC/DEPP1/ADE-2/F. IEGC/D.No. 94 /2022, Dt: 26 .09.2022

Sir,

Sub: TSTRANSCO – TSSLDC – Draft regulation notified by CERC (Indian Electricity Grid Code) Regulations, 2022 - Submission of comments/suggestions- Reg.

Ref: 1.CERC Notice No:L-1/265/2022/CERC, dated: 07.06.2022.
2. CERC Notice No:L-1/265/2022/CERC, dated: 30.08.2022.

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Hon'ble CERC issued draft Regulations 2022 (Indian Electricity Grid Code) on 07.06.2022 and invited comments/ suggestions/ objections from the stakeholders. The detailed comments/suggestions of Telangana TRANSCO are enclosed as ANNEXURE.

Hon'ble CERC is requested to kindly consider the comments/suggestions submitted above while finalizing the draft regulations.

Encl: (Annexure -12 Pages)

Yours faithfully,

Chief Engineer/SLDC(FAC)

TRANSMISSION CORPORATION OF TELANGANA LIMITED
ANNEXURE

CHAPTER 4: PROTECTION CODE:

Draft Clause No.	**Proposed Draft Regulation**	**Remarks (May be replaced as follows)**
12(1)	This chapter covers the protection protocol, protection settings and protection audit plan of electrical systems.	This chapter covers the protection protocol, protection settings and protection audit plan of electrical systems **of 220kV and above network (132kV and above in NER).**
14(2)(a)	Furnish the protection settings implemented for each element to respective RPC in a format as prescribed by the concerned RPC	furnish the protection settings implemented for each element to respective RPC in a format as prescribed by the concerned RPC **in consultation with the stakeholders in the concerned region**
14(2)(b)	Obtain approval of the concerned RPC for (i) any revision in settings, and (ii) implementation of new protection system;	obtain approval of the concerned RPC for (i) any major revision in settings (if any) of regional grid importance and (ii) implementation of new protection system **if the same is not as per protection protocol.**
15(2)	All users shall also conduct third party protection audit of each sub-station at 220kV and above (132kV and above in NER) once in five years or earlier as advised by the respective RPC	All users shall **cooperate in conducting** third party protection audit of each sub-station at 220kV and above (132kV and above in NER) once in five years or earlier as advised by the respective RPC
15(5)	Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC.	Annual **third-party protection** audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the **annual third party audit plan** and report compliance to their respective RPC.

TRANSMISSION CORPORATION OF TELANGANA LIMITED
CHAPTER 6:OPERATING CODE

Draft Clause No.	Proposed Draft Regulation	Remarks
29.4	**SYSTEM SECURITY:** Except under an emergency, or when it becomes necessary to prevent an imminent damage to a costly equipment, no user shall suddenly reduce its generating unit output by more than 100 (one hundred) MW [20 (twenty) MW in case of NER] without prior permission of the respective RLDC. Except under an emergency, or when it becomes necessary to prevent an imminent damage to a costly equipment, no user shall cause a sudden variation in its load by more than 100 (one hundred) MW without prior permission of the respective RLDC.	Large quantity of variable RE is integrated into the system. The variations from RE upto 15% is allowed without any penalties. There is a likely variation of more than 100 MW from RE sources. Further, some of the Lift Irrigation pump capacities are more than 100 MW and also Srisailam Hydel unit capacity is 150 MW. To handle large variations from RE, switching operations of Hydel Stations are being carried out to ensure Load Generation balance in control area with minimum deviations from Grid. Further, the Lift Irrigation pumps are being operated to meet Irrigation requirements duly ensuring deviations with in permissible limits. Under these circumstances getting prior permission from RLDC for switching operation of load/ generation having capacity more than 100MW each time is very difficult and impractical. Hence, the clause may be deleted. This aspect is being requested by most of the States since last 2 revisions of IEGC.

30.2	**FREQUENCY CONTROL AND RESERVES:** The NLDC, RLDC and SLDC shall ensure that the grid frequency remains close to 50 Hz. and ensure that the frequency is restored within the allowable band of 49.95 - 50.05 Hz at the earliest.	It can be noticed from actual operational performance of National Grid in respect of frequency that, 25 to 30% of time the frequency is beyond the present operating band i.e., 49.90 to 50.05 during the last **2 years.** Which may further deteriorate in view of large variations from RE. To reduce the frequency excursions beyond operating band, automatic load generation balancing is highly necessary. The Power system operators are at initial stage of implementation of automation like AGC (SRAS) and TRAS. The performance yet to be established. Further, the Weather forecast tools and service providers for Weather forecast, performance has to improve to a large extent. Further the performance of RE and Demand forecast tools are yet to be established in most parts of various control areas. Under these circumstances further, tightening of frequency leads to much higher deviations from schedule and payment of penalties by users. Therefore, the existing operating frequency band may be continued till establishment of

		automation features in the States control area for load generation balancing. Further, the deviation limit may be allowed as per revised DSM Regulations – 2022 i.e., 10% of schedule or 200 MW whichever is low in a time block.
36	**DEMAND AND LOAD MANAGEMENT** The demand and load shall be managed for ensuring grid security.	As per new DSM Regulations notified by the Hon'ble CERC the inadvertent deviation allowed from schedule is 10% of schedule or 200 MW whichever is low. Accordingly, the Load management schemes (ADMS) only can be planned in case the deviation is consistently more than 200 MW for 15 minutes
39	**REACTIVE POWER MANAGEMENT** (1) All generating stations shall be capable of supplying dynamically varying reactive power support so as to maintain power factor within the limits as per the CEA Connectivity Standard Regulations (2) All generating stations connected to the grid shall generate or absorb reactive power as per instructions of the concerned RLDC or SLDC, as the case may be. within capability limits of the respective generating units.	When Nation is contemplating for 500 GW RE Generation, the reactive power management by RE Generators is essential for maintaining Voltage profile within operating Band. There shall be charges for deviation of VAR exchange to Grid as per the Voltage limits indicated in ***Annexure-4 of DRAFT IEGC for*** RE Generators also in addition to Regional entities, then only RE Generators will follow the guidelines as the monitoring/advising individual RE Generator is very difficult for system operator keeping in view of huge population of RE Generators in the Grid.

TRANSMISSION CORPORATION OF TELANGANA LIMITED

CHAPTER 7: SCHEDULING AND DESPATCH CODE:

VIEWS:

The SLDCs are responsible for Scheduling & despatch of Electricity and monitoring of Real Time Grid operations. The concept of present Scheduling & Despatch on Day ahead and Rescheduling(Right to revise) during Real Time Operation for maintaining LGB as per contracts entered is **COMPLETELY MODIFIED** and advising SLDCs to maintain LGB to handle Real Time variations through Ancillary services (Secondary Reserves Ancillary Services (SRAS), Territory Reserves Ancillary Services (TRAS)) and RTM.

Penetration of high RE into the Grid with less accurate forecast of RE Generation on Day ahead with provision to revise 16times during day of operation need Real Time flexibility to the system operator. Further, the State of Telangana and many States in India having a considerable Load Mix from Agriculture and lift loads which are more sensitive to Weather changes. To handle, Real time flexible sources are necessary. To handle these variations only, Right to Revision(RTR) of schedules of all long term Generators & Real Time Market(RTM) was facilitated to system operator. Taking out RTR from system operator and restricting only to depend on RTM and Ancillary services to handle real time variations may lead to security issues and expected more deviations from schedule which will impact security of the Grid and Discoms commercially.

As on date the Automatic Generation Control (AGC) and Energy Storage System (ESS) in India is at initial stage. Primary response also is not giving full-fledged results due to limitations in Thermal station operations. For utilization of TRAS also automation system is necessary in between Load Despatch Centres and Generators.

TRANSMISSION CORPORATION OF TELANGANA LIMITED

Under these conditions, changing scheduling philosophy and removing Right to Revision of schedules of Generators having long/medium term PPA with beneficiaries may endanger the security of Grid. Not only safety of Grid, it will impact the cost of power to Discoms because every action of SRAS and TRAS costs beside paying of fixed charges without scheduling of power and loosing Right to Revision of long term contracts during real time operation.

Further, modifying Reserve shut down procedure may lead to complexity. There is no specific mention about part load compensation charges about who has to bear the charges when the Generator having a long term PPA with Discoms and its switching operations are being carried out as per security constrained unit commitment (SCUC) for utilisation of SRAS and TRAS.

In view of the above the following may be considered while finalising the Draft IEGC in respect of Scheduling and despatch code.

a. Modification of scheduling philosophy can be considered after ascertaining the performance of SRAS, TRAS keeping in view of Grid security.

b. Continuation of Right to Revision of schedules of long term/medium term contracts entered by beneficiaries during day ahead and the Real Time with 7/8 Time Block notice as per control area requirement as the beneficiaries are having valid contracts and paying fixed charges.

c. Continuation of existing Reserve shut down procedure. Without RSD procedure as per the prevailing orders/regulations, beneficiaries may loose the control over their own resources which is meant for operational flexibility. Suppose, NLDC takes control of overall state share of CGS power & dispatches according to national MOD, this will be in violation of the State MOD and DISCOMs will have to be bear additional financial impact due to this operation of NLDC

TRANSMISSION CORPORATION OF TELANGANA LIMITED

d. The existing clause of Special Dispensation of RE Generation may be continued i.e.,

System operator (SLDC/RLDC) shall make all efforts to evacuate the available Solar and Wind power and treat them as must run station. However, System operator may instruct the Solar/Wind generator to back down generation on consideration of Grid security or safety of any equipment or personnel is endangered and Solar/Wind generator shall comply with the same.

e. As per the existing Regulation i.e, Generator may sell power from the share of its original beneficiaries in the day-ahead Market with the consent of such beneficiaries; and in the real-time market without the requirement of consent from the beneficiaries, before the trading for the real time market for a specified duration commences. In both the cases, the realized gains shall be shared between the ISGS and the concerned beneficiary in the ratio of 50:50, in the billing of the following month, the above clause may be considered.

f. The existing clause of "in case of any grid disturbance, scheduled generation of all the ISGS and scheduled drawl of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation/drawl for all the time blocks affected by the grid disturbance" may be continued instead of category of GD-5 disturbance only.

g. Under T-GNA there may be GNA power scheduled. In GNA quantum bilateral and collective power can also be scheduled. In such cases the clarification on curtailment priority may be issued.

TRANSMISSION CORPORATION OF TELANGANA LIMITED

h. Ramping support from thermal generation would be an important attribute while considering the large scale renewable integration and changing load shape. Although, the CEA (Technical Standards for Construction of Electrical plant and Electric lines) Regulations 2010 prescribe +/-3% per minute ramp rate for coal fired plants, the draft Indian Electricity Grid Code (IEGC) has provisions requiring only +/-1% per minute ramp rate only. Ramp rate of 3% for thermal plants may be considered.

TRANSMISSION CORPORATION OF TELANGANA LIMITED

Format-III

Monthly Format for Confirmation of Healthiness of Fire, Hydrant and Emulsifier Systems in EHV Substations

Name of the substation:

Date of MIS REPORT:

I. Hydrant System

Date of observation	Hydrant Pressure in Kg/cm2	Any Leakages in the Hydrant System	Any Rectification Measure taken	Jockey Pumps working in				Wether Electric Motor driven Pump working in		Diesel Engine Driven Pump(DEDP)						Date of Mock drill conducted on Hydrant sytem	Overall functioning of Hydrant system	Remarks	Name & Designation of the Officials attended/ reporting	Initials of the Officials
				whether Jockey Pump-1		whether Jockey Pump-2														
				Auto	Manual	Auto	Manual	Auto Mode	Manual Mode	Diesel Oil Level	Battery status	Battery charger status (B.C.)	whether Diesel Engine pump starts on battery supply without BC	Whether DEDP Working in Auto mode	Whether DEDP Working in Manual mode					

II. Emulsifier System

ICT No.	ICTs Emulsifier System						Remarks	Name & Designation of the Officials attended/ reporting	Initials of the Officials
	Whether Functioning in Auto mode	Whether Functioning in Manual Mode	Date of Mock drill last conducted in Auto mode	Hydrant Pressure near Deluge valve	Fire Detection pipeline pressure near Deluge Valve	Whether Bypass Valve for Deluge valve is available or not			
1									
2									
3									
4									

III. Fire Extinguishing equipment

DCP		CO_2		Sand Buckets		Remarks	Name & Designation of the Officials attended	Initials of the Officials
No. of Cylinders	Condition	No. of Cylinders	Condition	No. of Buckets	Condition			

IV NITROGEN Injection system

ICT No.	N2 pressure	Visual inspection	Whether signal lights and alarms working properly	Any abnormalities in N2 cubicle and annunciation panel
ICT1				
ICT2				
ICT3				
ICT4				

Note:

1. It is preferred to keep the Hydrant and Mulsifyre system in EHV SS in Auto mode for any contingency preparedness duly attending the maintenance issues time to time.

2. Any manual mode of operation need to be substantiated with reasons with date of rectification and keeping the system back in Auto mode.

3. For Auto/ Manual to be filled clearly Auto /Manual modes

4. For Diesel oil, capacity available to be filled in Ltrs

5. For Battery Status, the voltage measured may be indicated.

6. For Leakages in the Hydrant system, date on which the leakages are observed, remedial actions proposed & rectification dates may be indicated.

7. The reporting officer may substantiate any system related issues as an additional information in a separate sheet.