

## Central Electricity Regulatory Commission Notification

New Delhi,

No. L-1/18/2016-CERC – In exercise of powers conferred under clause (h) of sub-section (1) of Section 79 read with clause (g) of sub-section (2) of Section 178 of the Electricity Act, 2003 (36 of 2003), and all other powers enabling it in this behalf, the Central Electricity Regulatory Commission hereby makes the following regulations to amend the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 including the first to fourth amendments thereof (hereinafter referred to as “the Principal Regulations”), namely:-

### 1. Short title and commencement –

(1) These regulations shall be called the Central Electricity Regulatory Commission (Indian Electricity Grid Code) **(Fifth Amendment)** Regulations, 2016,

(2) These regulations shall come into force with effect from the date of their publication in the Official Gazette.

### 2. Amendment of Regulation 2 of Principal Regulations

#### a) Regulation 2. (1) (sss) 'Definition' of Spinning Reserves shall be substituted as under:-

*"The Capacity which can be activated on the direction of the system operator and which is provided by devices including generating stations/units, which are synchronized to the grid and able to effect the change in active power."*

#### c) Regulation 2 (2) may be replaced with the following:

*"Words and expressions used in these regulations and not defined herein but defined in the Act or other relevant CERC Regulations shall have the meaning as assigned to them under the Act or relevant CERC Regulation."*

### **3. Amendment of Part 1 of Principal Regulations-**

#### **Following clause shall be added at the end of Regulation 1.4 (v)**

*"This section will also cover scheduling and despatch of power of ISGSs for operation of Ancillary Reserve Services, for utilization of Un-requisitioned surplus power and for operation of Spinning Reserves with the process of the flow of information between the Generating Stations, National Load Despatch Centre, Regional Load Despatch Centre, Power Exchanges, the State Load Despatch Centres and other concerned users."*

### **4. Amendment of Part 2 of Principal Regulations-**

#### **a) Following shall be added as Regulation 2.2.1 (m)**

*"Coordination with ISGSs, Regional Load Dispatch Centers, State Load Dispatch Centers and Regional Power Committees for implementation of Ancillary services, prudent utilization of Un-requisitioned power, and identification and operation of Spinning Reserves at inter-State level as per Detailed Procedure and Regulations specified by the Commission."*

#### **b) Regulation 2.2.2 (i) may be replaced as under:**

*"NLDC shall be the nodal agency for collective transactions and Ancillary Services including Spinning Reserves."*

#### **c) Regulation 2.3.2 (g) may be replaced as under:**

*"Operation of Ancillary Services including Spinning Reserves."*

#### **d) Following shall be added as Regulation 2.4.2 (i) & (j)**

*"2.4.2 (i) – To perform the functions as mandated under the Central Electricity Regulatory Commission (Ancillary Services Operation) Regulations, 2015."*

*2.4.2 (j) -To maintain the account of energy transacted under Ancillary Services Operation including Spinning Reserves "*

**e) Following shall be added as clause 2.7.1 (f)-**

*"be responsible for the functions as mandated in the detailed procedures under Central Electricity Regulatory Commission (Ancillary Services Operation) Regulations, 2015."*

**5. Amendment of Part 5 of Principal Regulations-**

**a) Regulation 5.2 (f):** "All thermal generating units of 200 MW and above and all hydro units of 10 MW and above" shall be substituted with *"All Coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above"*.

**b)** In 5.2 (f) (i) (a) word "Thermal generating units" shall be substituted with words *"Coal/lignite based thermal generating units."*

**c)** In 5.2 (f) (i) (b), the words and number "10 MW" shall be substituted with the words and number "25 MW".

**d) Following shall be added as clause 5.2 (f)(i) (c) –**

*"Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each: with effect from 01.04.2017"*

**e) Regulation 5.2 (f)(ii) (a) may be substituted as follows:**

*"There should not be any reduction in generation in case of improvement in grid frequency below 50.05 Hz (for example, if grid frequency changes from 49.9 to 49.95 Hz, or from 50.00 to 50.04 Hz there shall not be any reduction in generation). For any fall in grid frequency, generation from the unit should increase as per generator droop upto a maximum of 5% of the generation subject to ceiling limit of 105% of the MCR of the unit having regard to machine capability"*.

**f) In Regulation 5.2 (f) (iii)** words "Gas Turbine/combined cycle Power Plants" shall be removed

i) **Amendment of Regulation 5.2 (h):** In Regulation 5.2 (h), the sentence, "All thermal generating units of 200 MW and above and all hydro units of 10 MW and above operating at or up to 100% of their Maximum Continuous Rating (MCR) shall normally be capable of (and shall not in any way be prevented from) instantaneously picking up to 105% and 110% of their MCR, respectively, when the frequency falls suddenly."

**shall be substituted with sentence**

*"All coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above operating at or up to 100% of their Maximum Continuous Rating (MCR) shall have the capability of (and shall not in any way be prevented from) instantaneously picking up to 105%, 105% and 110% of their MCR, respectively, when the frequency falls suddenly."*

ii) Following para may be added at the end of clause 5.2 (h):

*"For the purpose of ensuring sustainable primary response, RLDCs/SLDCs shall not schedule the generating units beyond ex-bus generation corresponding to 100% of the Installed capacity. Further, Valve Wide Open (VWO) operation of units is not allowed so that there is margin available in valve opening for providing primary response upto 5% of the generation level. In case of gas/Liquid fuel based units also, adequate margins while scheduling should be kept by RLDCs/SLDCs in due consideration of prevailing ambient conditions of temperature and pressure viz.*

*a viz. site ambient conditions on which installed capacity of these units have been specified.*

*Provided that the VWO margin shall not be used by RLDC to schedule in Ancillary Services."*

## **6. Amendment of Part 6 of Principal Regulations:**

### **a) Amendment to Regulation 6.5**

i) Clause 3, shall be substituted as follows:

*"By 1 PM every day, the ISGS shall advise the concerned RLDC, the station-wise ex-power plant MW and MWh capabilities foreseen for the day after the next day, i.e., from 0000 hrs to 2400 hrs of the day after the next day."*

ii) Clause 4 shall be substituted as follows:

*"The above information of the foreseen capabilities of the ISGS and the corresponding MW and MWh entitlements of each State, shall be compiled by the RLDC every day for the day after the next day, and advised to all beneficiaries by 3 PM. The SLDCs shall review it vis-à-vis their foreseen load pattern and their own generating capability including bilateral exchanges, if any, and advise the RLDC by 5 PM their tentative drawal schedule for each of the ISGS in which they have Shares, long-term and medium-term bilateral interchanges, approved short-term bilateral interchanges. "*

iii) Existing clause no.7 shall be substituted as follows:

*"7. By 7 PM each day, the RLDC shall convey:*

- (i) The ex-power plant "despatch schedule" to each of the ISGS, in MW for different time block, for the day after the next day. The summation of the ex-power plant drawal*

*schedules advised by all the beneficiaries shall constitute the ex-power plant station-wise despatch schedule.*

- (ii) The tentative "net drawal schedule" to each regional entity, in MW for different time block, for the day after the next day next day. The summation of the station-wise ex-power plant drawal schedules from all ISGS and drawal from /injection to regional grid consequent to other long term access, medium term and short-term open access transactions, after deducting the transmission losses (estimated), shall constitute the regional entity-wise drawal schedule.*
- (iii) ISGS wise Un-requisitioned surplus (URS) power to ISGS and SLDCs.*

iv) Clause 8 shall be substituted as follows:

*8(a) Original Beneficiaries of an ISGS will have first right to give requisition for the URS power of the ISGS. Such original beneficiaries shall advice RLDCs, through their SLDC, regarding quantum of power and time duration of such drawal out of declared URS of the ISGS, by 8 P.M. In case full URS of an ISGS is requisitioned by more than one original beneficiary, RLDC shall allocate URS proportionately based on the share of these original beneficiaries in the ISGS.*

*8(b) RLDCs to post the ISGS wise data of balance URS on its website by 9 P.M. after modifying the tentative net drawal schedule of the original beneficiaries after taking into account the URS requisitioned and associated transmission losses.*

*8(c) ISGS may sell the balance URS power left after completion of the process of requisition by other original beneficiaries of the*

*plant, in the market. The original beneficiary shall communicate by 12PM about the quantum and duration of such URS power to ISGS to enable ISGS sell same in the market. If the original beneficiary fails to communicate to ISGS, then the ISGS shall be entitled to sell the URS power of the beneficiary in the market.*

*8(d) The URS which has been sold and scheduled by ISGS in the market (power exchange or through STOA) cannot be called back by the original beneficiary.*

*8 (e) After sale in market as under 8(d) above, if any power still remains under URS, the same may be requisitioned by the beneficiaries of the station .*

*8(f) By 6 P.M, each day, RLDC shall convey ex-power power plant dispatch to each ISGS for the next day after incorporating sale in market.*

*8(g) Any change in drawals/foreseen capacities shall be communicated to RLDCs by 10 P.M of the day prior to day of scheduling."*

v) Following para shall be added at the end of clause 19.

"Provided that if a generator is not able to restore the unit by the estimated time of restoration, RLDC shall revise the schedule only one more time on the basis of new estimated time of restoration and the revision schedule shall become effective from the 4<sup>th</sup> time block, counting the time block in which the revision is advised by the generator to be the first one.

**7. New Regulation 6.5 (A):** New Regulation "6.5 (A)" shall be added after Regulation 6.5 as follows:

**"6.5 (A) Scheduling and commercial settlement of energy exchanged under Ancillary services including Spinning Reserves and URS:**

- a. The Central Electricity Regulatory Commission (Ancillary Services Operations) Regulations, 2015 provides detailed frame work of scheduling and despatch, withdrawal, energy accounting and commercial settlement of Reserves Regulation Ancillary Services.
- b. In case of spinning reserves, the Scheduling and commercial settlement of energy exchanged shall be as per the framework to be notified separately by the Commission.
- c. In case the un-requisitioned surplus power surrendered by the original beneficiary is requisitioned by the other beneficiaries of the ISGS, it shall be treated as reallocation and the fixed charge and variable charge for such energy exchanged shall be borne by the other beneficiary(ies).
- d. In case of sale of un-requisitioned surplus power in market, the generator and the original beneficiary would share the realized gains in the ratio of 50:50. This gain shall be calculated as the difference between selling price of such power and fuel charge including incidental expenses. Subject to provisions to CERC Tariff Regulations, the liability of fixed charge in such case shall remain with original beneficiary.