

**Explanatory Memorandum to Central Electricity Regulatory Commission (Indian Electricity Grid Code) (First Amendment) Regulations, 2010**

1. The Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code) was notified by the Commission on 28.04.2010 and came into force w.e.f. 03.05.2010. This regulation mandated the narrowing down of frequency band from 49.2-50.3 Hz. to 49.5-50.2 Hz. There has been marked improvement in the grid frequency during the year 2010-11. The frequency profile of the grid during 2010-11 in the NEW grid is as follows:

April, 2010 to March, 2011						
Northern / Western / Eastern / North-Eastern Regions						
Month	% of Time when Frequency was			Average Frequency (Hz.)	Max. Freq. (Hz.)	Min. Freq. (Hz.)
	Below 49.5 Hz.	Between 49.5-50.2 Hz.	Above 50.2 Hz.			
April, 2010	80.11	19.67	0.22	49.27	50.51	48.56
May, 2010	18.10	79.17	2.73	49.73	50.80	48.76
June, 2010	5.74	89.83	4.43	49.85	50.76	48.82
July, 2010	7.77	87.81	4.42	49.86	50.72	48.70
Aug' 2010	7.91	87.5	4.59	49.86	50.73	48.73
Sep' 2010	1.83	85.89	12.28	49.98	50.79	48.76
Oct' 2010	0.95	93.14	5.91	49.97	50.60	49.09
Nov' 2010	0.48	87.37	12.15	50.03	50.71	49.12
Dec' 2010	2.02	88.94	9.04	49.9	50.68	48.94
Jan' 2011	5.20	89.43	5.37	49.88	50.61	48.89
Feb' 2011	4.49	88.89	6.62	49.9	50.67	49.08
Mar' 2011	3.41	94.22	2.37	49.9	50.64	49.00
<b>Average</b>	<b>11.50</b>	<b>82.66</b>	<b>5.84</b>	<b>49.84</b>	<b>50.69</b>	<b>48.87</b>

2. Similar improvements were observed in the grid frequency of SR grid also. In the interest of grid security and to ensure better power quality, the frequency band can further be narrowed down. This would encourage the distribution companies to procure more power through contracts in the organized market resulting in development of power market and overall benefit to the consumers. Accordingly, it has been proposed to amend Regulations 5.2, 5.4.2 and 6.4 of Grid Code to change the operating frequency band from 49.5 -50.2 Hz. to 49.7-50.2 Hz.

3. Several requests have been received from the utilities for relaxation/exemption of sub-regulation (f) of Regulation 5.2 relating to introduction of Restricted Governor Mode Operation (RGMO). It has been observed from the requests that many utilities are experiencing difficulty in operating their machines in RGMO. To obviate the difficulties faced by the utilities, a proviso is proposed to be inserted under this sub-regulation to enable such utilities to operate their machines in Free Governor Mode Operation (FGMO) if these machines cannot be operated in RGMO due to technical problems.

4. To bring the sub-regulation (r) of Regulation 5.2 of Grid Code in line with the Central Electricity Authority (Grid Standard) Regulations 2010, amendment has been proposed to provide that all the Users, STU/SLDC and CTU shall send information/data including disturbance recorder/sequential event recorder outputs to respective RLDC within 24 hours for purpose of analysis of any grid disturbance/event. As per existing provisions in Grid Code, the data is to be submitted in one week. Similarly, the amendment has been proposed in Regulations 5.7.4 and 5.2 of Grid Code to align them with other regulations of the CERC e.g. Sharing of Transmission Charges and Losses Regulations.

5. To make the sub-regulation (r) of Regulation 5.2 in line with the Central Electricity Authority (Grid Standard) Regulations 2010, amendment is proposed to provide that all the Users, STU/SLDC and CTU shall send information/data including disturbance recorder/sequential event recorder output to RLDC within 24 hours for purpose of analysis of any grid disturbance/event. As per existing provisions in IEGC, 2010 the data is to be submitted in one week. Some more amendments are proposed to make certain provisions in IEGC related to operation and maintenance of power system, as mandated in CEA (Grid Standards) Regulations, 2010.

6. Narmada Control Authority (NCA) vide its letter dated 21.06.2010 submitted that in accordance with statutory responsibility entrusted to NCA,

Energy Management Centre (EMC) of NCA is carrying out daily scheduling of SSP complex and other functions like monitoring of O&M and coordination of energy accounting etc. It was also mentioned that as per regulation 1.3 (iii) of the Grid Code, the scheduling and despatch of the Sardar Sarover Project (SSP) is to be done by NCA in-coordination with WRLDC. However, as per Regulation 6.3, the scheduling and despatch procedure for the generating stations of Sardar Sarovar Project (SSP) shall be as per the procedure formulated by the Western Regional Load Despatch Centre (WRLDC) in consultation with Narmada Control Authority (NCA). To avoid the ambiguity, the Regulation 6.3 is proposed to be amended.

7. Regulations 2.3.2 and 6.4.1 are proposed to be modified since UI accounting, metering and data collection is not the responsibility of RLDCs. The sub-regulation 6 of Regulation 6.4. is proposed to be amended for better clarity.

8. In line with the draft Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters)( Second Amendment) Regulations, 2011, an amendment has been proposed in the Grid Code to limit the injection of infirm power before COD upto three months.

9. In Regulation 6.5.19 there is a provision for revision of schedule in case of forced outage of the unit. The schedule is to be revised as proposed by the generating station. The present regulation does not provide the clarity regarding how the schedule is to be revised. It is proposed that to avoid any undue disadvantage to the beneficiaries/buyers of the power from a generating station which unit goes under forced outage, the schedule of all the beneficiaries/buyers should be reduced on pro-rata basis. It has also come to notice of the Commission that in case of tripping of unit of a generating station from which host state Govt. gets power on account of equity in the generating company and free power to the State, the STOA schedule was not

revised, causing heavy UI for the state utility . To remove this anomaly , it is proposed that the schedule of all the beneficiaries, buyers and sellers getting /selling power from a particular generating station shall be revised, in case of forced outage of a unit . It is also proposed that this benefit shall be available only for those STOA transactions in which the particular generating station had already been indicated as source for that STOA transaction at the stage of STOA application.

10. In appendix to the Grid Code, the illustrative examples for commercial settlement for wind and solar generation are given. However, as per clause 9 of the Annexure-I, Complementary Commercial Mechanisms, National Load Despatch Centre (NLDC) has to prepare detailed procedure for implementation of the mechanism of Renewable Regulatory Fund (RRF). This detailed procedure should also cover the commercial settlement mechanisms for wind and solar generation along with other aspects. Therefore, it is proposed that Appendix would be deleted from the Regulations.

11. Southern Regional Power Committee (SRPC) has raised the issue of reference frequency for inter-regional UI accounting. It has been submitted that Regulation 16 (1) of Grid Code stipulates that regional boundaries for scheduling, metering and UI accounting of inter-regional exchanges shall be Eastern Region end of inter-regional links between Eastern Region and Southern, Western and Northern Regions and western Region end of inter-regional links between Southern and Western Region. SRPC has started making UI accounts of inter-regional transactions between SR and ER as well as between SR and WR considering reference frequency of NEW grid. SRLDC has opined that the regulation 16 (1) talks about only the metering interfaces of scheduling of Inter-regional exchanges and does not talk about reference frequency for Inter-regional UI accounting. SRPC has requested for necessary clarification/amendment in this regard. Since this matter is related to UI, same should be covered in the UI Regulations. In the Grid Code, the reference to UI accounting has been proposed to be deleted.