

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 35/MP/2017

Coram:

Shri P. K. Pujari, Chairperson

Shri A. K. Singhal, Member

Dr. M. K. Iyer, Member

Date of Order: 20th of August, 2018

In the matter of

Petition under Regulation 4 of Part 7 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 read with Regulation 111 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 seeking relaxation of Regulation 5.2 (f) regarding requirement of implementing RGMO/FGMO for vintage units of UPRVUNL.

And

In the matter of

Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited
Shakti Bhawan, 14 Ashok Marg,
Lucknow, Uttar Pradesh

.....**Petitioner**

Vs.

1. The General Manager
National Load Despatch Centre
POSOCO, B-9, Qutub Industrial Area,
Katwaria Sarai, New Delhi-110 016

2. Managing Director
SLDC, UP Power Transmission Corporation Ltd.
7th Floor, Shakti Bhawan
No. 14, Ashok Marg,
Lucknow, Uttar Pradesh

...**Respondents**

Parties present:

Shir S. Vallinayagam, Advocate, UPRVUNL



Shir Brijesh Kumar Singh, UPRVUNL
Shri Ajay Rawat, UPRVUNL

ORDER

The Petitioner, Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited, has filed the present petition seeking relaxation of Regulation 5.2 (f) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (hereinafter referred "Grid Code") for implementation of Restricted Governor Mode Operation (hereinafter referred to as 'RGMO') in respect of certain Thermal Generating Stations operated by the Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited.

2. Regulation 5.2.(f) of the Grid Code provides that all thermal generating units of 200 MW and above and all hydro units of 10 MW and above which are synchronized with the grid, irrespective of their ownership, shall be required to have their governors in operation at all time in accordance with the provisions in sub-clauses (i) to (iii). The provision in the Grid Code in regard to governor action is extracted as under:-

“Governor Action (i) Following Thermal and hydro (except those with up to three hours pondage) generating units shall be operated under restricted governor mode of operation with effect from the date given below:

- (a) Thermal generating units of 200 MW and above,
 - (1) Software based Electro Hydraulic Governor (EHG) system: 1.8.2010
 - (2) Hardware based EHG system: 1.8.2010
- (b) Hydro units of 10 MW and above:1.8.2010

(ii) The restricted governor mode of operation shall essentially have the following features:

(a) There should not be any reduction in generation in case of improvement in grid frequency below 50.5 Hz. (for example if grid frequency changes from 49.9 to 49.95 Hz., there shall not be any reduction in generation). For any fall in grid frequency, generation from the unit should increase by 5% limited to 105% of the MCR of the unit subject to machine capability.



(b) Ripple filter of +/- 0.03 Hz. shall be provided so that small changes in frequency are ignored for load correction, in order to prevent governor hunting.

(c) If any of these generating units is required to be operated without its governor in operation as specified above, the RLDC shall be immediately advised about the reason and duration of such operation. All governors shall have a droop setting of between 3% and 6%.

(d) After stabilisation of frequency around 50 Hz, the CERC may review the above provision regarding the restricted governor mode of operation and free governor mode of operation may be introduced.

(iii) All other generating units including the pondage up to 3 hours Gas turbine/Combined Cycle Power Plants, wind and solar generators and Nuclear Power Stations shall be exempted from Sections 5.2 (f), 5.2 (g), 5.2 (h) and 5.2(i) till the Commission reviews the situation:

Provided that if a generating unit cannot be operated under restricted governor mode operation, then it shall be operated in free governor mode operation with manual intervention to operate in the manner required under restricted governor mode operation."

3. On account of the difficulties faced by the Petitioner towards retrofit solution for RGMO and operational difficulties in case where RGMO was in service, the Petitioner has filed the present petition seeking relaxation of provisions of the Grid Code for implementing RGMO in the following thermal generating stations:

Sl. No.	Name of Generating Station	Unit No.	Capacity in MW	Commissioning year	Make	Governor Type
1	Anpara Thermal Power Station	1	210	1987	KWU	Throttle Governing Electro-Hydraulic type
2		2	210	1987		
3		3	210	1989		
4	Obra Thermal Power Station	9	200	1979	LMZ	Hydro Mechanical Governor
5		10	200	1979		
6		11	200	1978		
7		12	200	1981		

8		13	200	1982		
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4. Against the above background, the Petitioner has made the following prayers:

“(a) The Commission may grant exemption from compliance to the provisions of Regulation 5.2 (f) (as amended) to Units 9,10,11,12 and 13 of the Obra Thermal Power Station, Obra and Units 1,2 and 3 of Anpara Thermal Power Station, Anpara of UPRVUNL.

(b) Any other relief as deemed proper in the circumstances pleaded above.”

5. The matter was heard after notice to the Petitioner and the Respondents. None was present on behalf of the Respondents

Analysis and Decision:

6. Through the Grid Code, RGMO has been mandatory in the cases of hydro and thermal generating stations. However, proviso under Regulation 5 (1) (f) of the Grid Code which came into effect on 1.4.2012 provides as under:

“Provided that if a generating unit cannot be operated under restricted governor mode operation, then it shall be operated in free governor mode operation with manual intervention to operate in the manner required under restricted governor mode operation.”

7. Subsequent to the First Amendment to the Grid Code, NTPC and MPGCL filed Petition No. 65/MP/2014 and Petition No. 383/MP/2014 respectively before the Commission for exemption of some of their LMZ units and other units not fitted with EHG from RGMO/FGMO with manual intervention. In view of the difficulties expressed by the generators, the Commission vide office order dated 24.9.2014 constituted a Committee under the Chairmanship of Sh. A. Velayutham, Ex-Member, MERC consisting of representatives from CEA, the Commission, POSOCO, ISTS generating stations, BHEL and Alstom, to look into the problems of the generating units in



implementing FGMO, to suggest measures for implementation of FGMO with suitable modification/amendments in certain Regulations/Grid Code and for any other recommendation to facilitate FGMO/RGMO operation. The report of the Committee was finalized in October, 2015.

8. Based on the recommendations of the Committee on FGMO in generating units, the Commission in Petition No. 383/MP/2014 filed by MPCGL and Petition No. 65/MP/2014 filed by NTPC did not grant exemption to the LMZ units from operation under RGMO/FGMO. The Commission in its order dated 15.2.2017 in Petition No. 383/MP/2014 observed as under:

“19. With regard to primary response from LMZ machines, the committee has recommended that these units shall provide mandated Grid Code response either through replacement/retrofitting of MHG governors with/to EHG governors or through FGMO with Manual Intervention. The generators have been given the option to decide the course of action based on vintage of *these units*. *Relevant portion of the report of the committee is extracted as under:*

“Committee feels that there is no need for granting any exemption for the LMZ units from operation under RGMO/FGMO with manual intervention. The generator may decide on their own whether to go for retrofit for adopting RGMO features or continue with FGMO with manual intervention.”

In view of the above, we are not inclined to grant exemption for the LMZ units from operation under RGMO/FGMO. The petitioner is directed to either go for replacement/retrofit or adopt FGMO with MI for providing mandated response as per the provisions of the Grid Code.”

9. The Commission in its order dated 13.2.2017 in Petition No. 65/MP/2014 observed as under:

“16. As per the report of the Committee, LMZ machines can be operated on FGMO with manual intervention. The petitioner has agreed to the fact that primary response can be provided by manual intervention though the same requires constant engagement of the operator. Considering the importance of primary response in the Indian Power System, we are not inclined to grant exemption for the LMZ units from operation under RGMO/FGMO. The petitioner is directed to either go for replacement/retrofit or adopt

FGMO with MI for providing mandated response as per the provisions of the Grid Code. It is noted that most of the units (15 out of 20 units), the petitioners generating stations for which exemption has been sought by the petitioner have already outlived their useful life of 25 years as specified in the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations issued from time to time. Since, these units are either being allowed R&M expenditure or special allowance (Rs.7.50 lakh/MW) in lieu of R& M, we direct the petitioner to replace the existing governors with latest state of art EHG governors, in all units which have outlived their useful life and expenditure on such replacement shall be met from special compensation allowance . With regard to units which are expected to complete their useful life, petitioner is directed to either meet the requirements of Grid Code by operating units on FGMO with manual intervention or to go in for replacement/ retrofitting of existing governors with latest state of art EHG governors. **Expenditure on such replacement/ retrofitting shall be considered by the Commission in additional capital expenditure subject to suitable adjustment of R&M expenditure/ special compensation allowance to be allowed post expiry of useful life.** The petitioner is directed to comply with the provisions of the Grid Code with manual intervention pending replacement/retrofitting.

Therefore, the consistent approach of the Commission is that pending implementation of the RGMO, the generating stations are required to comply with the provisions of the Grid Code by having FGMO with manual intervention in their generating stations.

10. During the course of hearing, learned counsel of the Petitioner submitted that the Petitioner is now operating the concerned generating stations or units thereof by installing FGMO with manual intervention. Learned counsel submitted that since the Petitioner is complying with the provisions of the Grid Code, the present petition has become infructuous and requested the Commission to dispose of the petition accordingly.

11. We have noted the submission of the learned counsel for the Petitioner. Since the Petitioner has been operating the Anpara and Obra thermal generating stations in free governor mode with manual intervention in compliance with the provisions of the

Grid Code, no further direction is required to be issued on the prayer of the Petitioner. It is clarified that if the Petitioner`s units of Anpara and Obra thermal generating stations are not able to provide the desired primary response through FGMO with manual intervention, then the Petitioner shall be required to replace old governors with new EHG governors.

12. The Petition is disposed of in terms of the above.

Sd/-
(Dr. M. K. Iyer)
Member

sd/-
(A. K. Singhal)
Member

sd/-
(P. K. Pujari)
Chairperson

