

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

**Dr. Pramod Deo, Chairperson
Shri S. Jayaraman, Member
Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member**

Date of Hearing: 16.10.2012

Date of Order : 31.12.2012

Petition No. 209/MP/2012

In the matter of:

Petition for limiting injection out of sustained overload up to long term access by Karcham-Wangtoo HEP in terms of section 28 of Electricity Act, 2003 read with Regulation 6.4.12 of the Indian Electricity Grid Code, 2010 for ensuring secure operation of synchronous North-East-West-Northeast grid and seeking directions in above matter in terms of Section 10 of the Electricity Act, 2003 read with part-3 of the IEGC and Section 2 of the Manual for Transmission Planning Criteria.

And

in the matter of:

Northern regional Load Despatch Centre, New Delhi

....Petitioner

Vs

1. Jaiprakash Power Venture Limited, Shimla
2. Sutlej Jal Vidyut Nigam Limited, Shimla
3. Power Grid Corporation of India Limited, Gurgaon
4. Central Electricity Authority, New Delhi
5. Northern Regional Power Committee, New Delhi

.....Respondents

Parties Present:

1. Shri V.V. Sharma, NRLDC
2. Shri Rajiv Porwal, NRLDC
3. Shri V. Thingarajan, PGCIL
4. Shri Vishal Gupta, Advocate, JPVL
5. Shri Ansul Garg, JPVL



ORDER

The petitioner, Northern regional Load Despatch Centre (NRLDC), has filed this petition seeking appropriate directions to Karcham Wantoo Hydro Electric Power Project (KWHEP) to limit injection out of sustained overload up to Long Term Access (LTA). The petitioner has made following prayers:

- (a) Direct KWHEP to seek LTA for full envisaged injection including overload capacity so that the transmission adequacy is tested comprehensively by planner;
- (b) Direct that Short Term Open Access allowed by RLDC shall be limited within the total LTA granted by the planner or 150 MW, subject to STOA Regulations, whichever is higher;
- (c) Direct all concerned to coordinate with CTU/CEA for comprehensive review of Power System Stabilizer (PSS) tuning and Automatic Voltage Regulator (AVR) at periodic intervals for all generating stations;
- (d) Direct hydro generating stations to avoid transactions through PX since they are difficult to curtail in case of contingencies or transmission constraint.

2. The petitioner has submitted that the Karcham Wantoo HEP, located on river Sutlej in the State of Himachal Pradesh has an installed capacity of 1000 MW (4x250 MW). Karcham Wantoo HEP has been granted connectivity through 400 kV D/C KWHEP-Abdullapur D/C and LILO of 400 kV D/C Baspa-Jhakri D/C at Karcham Wangtoo. The Long Term Access (LTA) of 880 MW at Karcham Wantoo has been granted by Central Transmission Utility to M/s PTC (704 MW) and M/s JKHCL (176 MW).

3. The petitioner has submitted that the Karcham Wangtoo has applied for scheduling under Short Term Open Access to drawee entities other than those informed earlier by KWHEP. In response to query of NRLDC, KWHEP informed that no PPAs were being violated by such STOAs and this information was sent to all stakeholders. However, no response was received from them. It has been submitted that on 16.7.2011, oscillations were observed in the system when one circuit of 400 kV Jhakri-Abdullapur D/C line tripped and the generation in the complex in the antecedent condition was 2560 MW and based on analysis, KWHEP and NJHPS were advised to take corrective actions to ensure the operation of SPS.

4. The petitioner has submitted that 400 kV D/C KWHEP-Abdullapur D/C was commissioned in the month of April, 2012 and the approved injection by KWHEP was increased from 700 MW to 880 MW (LTA). Since

long term beneficiaries of KWHEP were yet to be informed to NRLDC, KWHEP was advised to seek appropriate access for scheduling of power from KWHEP as per Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code). KWHEP continued to apply for generation injection under STOA for scheduling the generation by it. Therefore, in terms of Grid Code, NRLDC/NLDC has been scheduling/allowing injection from KWHEP subject to availability of margins in the transmission system and prevailing grid conditions.

5. It has been further submitted that Jaiprakash Power Ventures Limited vide its letters dated 16.4.2012 and 7.5.2012 had requested for revising the injection limit to 1200 MW (1000 MW + 20% overload). In response, NRLDC sought the advice of CTU/CEA. CTU vide its letter dated 11.5.2012 had advised that 400 kV Karcham Wangtoo-Abdullapur D/C quad bundle line would facilitate evacuation of 1000 MW from KWHEP and provide additional spare capacity of about 1200 MW, depending upon the system conditions. Accordingly, the limit of scheduling was revised to 1200 MW (under LTA + MTOA+ STOA) subject to prevailing system conditions. Special Protection Scheme (SPS) modification was also suggested for ensuring security of the system under N-2 contingency.

6. The petitioner has submitted that on 23.8.2012 at 19.02 hrs, 400 kV D/C KWHEP-Abdullapur D/C and 400 kV D/C Abdullapur-Panchkula-II tripped simultaneously and oscillations were observed and at the same time. Further oscillations were also observed at KWHEP on 24.8.2012 at 04.07 hrs. The antecedent generation in the complex was 1600 MW, 1100 MW and 200 MW at NJHPS, KWHEP and Baspa HEP, respectively. NRLDC vide its letter dated 24.8.2012 advised NJHPS and KWHEP to curtail injection out of sustained overload. KWHEP informed that SPS had not operated on 23.8.2012. The petitioner has submitted that in terms of Section 10 of the Electricity Act, 2003 (the Act) the generating company should coordinate with CTU or STU for power injection so as to ensure proper planning of transmission for safe and secure operation of the system. However, KWHEP has failed to comply with its duty by under declaring the requirement for transmission.

7. The petitioner has submitted that Commission vide its order dated 30.1.2004 had directed to allow STOA, if there is inherent design margins, margins available due to variation in power flows, and margins available due to in-built spare transmission capacity created to cater to future load growth. If KWHEP had requested for LTA equal to its maximum envisaged generation, the same would have been comprehensively assessed during the planning studies. However, since the LTA requested was limited to 880

MW, the issue of facilitating evacuation of a hydro generation beyond 880 MW has to be addressed in real time operation even though it could have been suitably taken care of during the planning stage itself if KWHEP had faithfully declared its capacity and coordinated with the planners in line with Section 10 of the Act.

8. The petitioner has submitted that the hydro power plants generally have short term overload capacity of 10% and the same may not pose any serious threat to the security as the system may have inherent design margin or margins due to diversity in the system. The injection on sustained overload by all the units in this complex and the inadequacy of downstream intra-State transmission network in the vicinity of the Jhakri-Karcham complex could be one of the possible reasons for the oscillations in the system observed on 16.7.2011, 23.8.2012 and 24.8.2012. The petitioner has requested CTU to examine the issue of injection through STOA on a sustained basis by KWHEP. It has been submitted that the users who do not have an LTA/MTOA be allowed STOA only up to 150 MW or lower depending on the margins available in the system. This upper threshold is desirable to avoid infringement of security margins by STOA transactions under dynamic system conditions.

9. During the course of hearing of the petition, the representative of the petitioner submitted that capacity of the transmission line evacuating power

is greater than 2000 MW. The representative of the petitioner further submitted that oscillations were observed when KWHEP generates to the extent of 1200 MW and PSS tuning is required to be completed by the generator. He further submitted that the purpose of the present petition is bring to the notice of Commission the difficulties being faced by the system operator for operation of the grid so that necessary process to amend the relevant regulations is initiated by the Commission for evacuate of power up to LTA only.

10. We have perused the petition and heard the representative of the petitioner. It is observed that STOA of 1200 MW was granted by the petitioner itself and while granting the same, petitioner should have ascertained that there was no constraint in evacuation of power. If petitioner had found any constraints, STOA should not have been granted in the first place. The NRLDC is advised to constrain from taking any measures which restrain any generating capacity/results in spillage of water, unless it has very specific grounds in the matter. The submission of the petitioner that the user who do not have an LTA/MTOA be allowed STOA only up to 150 MW or less depending on the margins available in the system, is not in accordance with the provisions of relevant regulations. Regulation 5 (5) of the UI Regulations provides that the cap rate for Unscheduled Interchange for the injection by the seller in excess of 120% of the

schedule subject to a limit of ex-bus generation corresponding to 105% of the installed capacity of the station in a time block or 101% of the installed capacity over a day shall be the same as the charges for the Unscheduled Interchange corresponding to grid frequency interval of below 49.70 Hz and not below 49.68 Hz.

11. After going through the contents of the petition, it appears to us that the issues regarding availing less LTA by generating station and injection of power through STOA are generic in nature and petitioner apprehended that it might cause system stress in dynamic conditions. The petitioner is directed to report the matter in accordance with the provisions of Grid Code. It appears that the petitioner's prayers are in the nature of seeking amendments to certain provisions of the Grid Code in order to address the problems arising out of the evacuation of power without LTA. Without going into the merit of the issues raised, we intend to clarify that filing of the petition is not the proper process for initiating the amendment to the existing regulations. The Commission under Section 178 of the Act has been vested with the power to make, amend and repeal the regulations on the subjects, which have been authorized under various provisions of the Act. The petitioner being a statutory body and vested with specific statutory functions is at liberty to approach the Commission with concrete proposal for making any regulations or for amendment of any regulation

which is considered necessary to enable it to discharge its statutory functions effectively. However, we have taken note of the submissions of the petitioner regarding the problems arising out of the tendency and practices of the generators to inject power into the grid under short term on sustained basis. We direct the staff to examine the issues and submit a proposal to address the problem for consideration of the Commission.

12. The petition is disposed of terms of the above.

Sd/-
(M.Deena Dayalan)
Member

sd/-
(V.S.Verma)
Member

sd/-
(S.Jayaraman)
Member

sd/-
(Dr. Pramod Deo)
Chairperson