

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.69/MP/2023

Coram:

Shri Jishnu Barua, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri P.K. Singh, Member

Date of Order: 6th March, 2023

In the matter of

Petition under Section 79(1) (k) of the Electricity Act, 2003 read with Regulation 8 (7) of the Central Electricity Regulatory Commission (Grant of Connectivity, Long Term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009 seeking permission for injection of infirm power beyond 31.7.2022 in case of Parbati Hydroelectric Project-Stage-II.

And

In the matter of

NHPC Limited,
NHPC Office Complex,
Sector-33, Faridabad-121 003

...Petitioner

Vs.

1. Executive Director,
Northern Regional Load Despatch Centre,
(Power System Operation Corporation Limited),
18-A, Shaheed Jeet Singh Sansanwal Marg,
Katwaria Sarai, New Delhi-110 016

2. Member Secretary,
Northern Regional Power Committee,
18-A, Shaheed Jeet Singh Sansanwal Marg,
Katwaria Sarai, New Delhi-110 016

3. Chairman and Managing Director,
Power Grid Corporation of India Limited,
Saudamini, Plot No. 2,
Sector-29, Near IFFCO Chowk,
Gurgaon, Haryana-122 001

4. Parbati Koldam Transmission Company Limited,
Building No. 10 B, 12th Floor,
DLF Cyber City, Shankar Chowk,
Gurgaon, Haryana-122 002

5. Chairman,
Punjab State Power Corporation Ltd.,
The Mall, Near Kali Badi Mandir,
Patiala-147 00, Punjab
6. The Chairman,
Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6, Panchkula-134 109
7. The Chairman,
Uttar Pradesh Power Corporation Ltd.,
Shakti Bhawan, 14-Ashok Marg,
Lucknow-226 001, UP
8. The Chief Engineer and Secretary,
Engineering Department, 1st Floor,
UT Chandigarh, Sectgor-9 D, Chandigarh-160 009
9. The Chief Executive Officer,
BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place, New Delhi-110 019
10. The Chief Executive Officer,
BSES Yamuna Power Ltd.,
Shakti Kiran Building, Karkadooma,
Delhi-110 072
11. The Chief Operating Officer,
Tata Power Delhi Distribution Ltd.,
Grid Sub-station Building,
Hudson Lines, Kingsway Camp, Delhi-110 009.
12. The Chairman-Cum-Managing Director,
Uttaranchal Power Corporation Ltd.,
Urja Bhawan, Kanwali Road, Dehradun-248 001
13. The Managing Director,
Jairpur Vidyut Vitran Nigam Ltd.,
Vidyut Bhawan, Janpath, Joyti Nagar,
Jairpur-302 005 Rajasthan
14. The Managing Director,
Ajmer Vidyut Vitran Nigam Ltd.,
Old Power House,
Hathi Bhatta, Jaipur Road,
Ajmer-305 001, Rajasthan
15. The Managing Director,
Jodhpur Vidyut Vitran Nigam Ltd.,
New Power House, Industrial Area,

Jodhpur-342 003, Rajasthan

16. The Principal Secretary,
Power Development Department,
New Secretariat, Jammu-180 001.

17. The Chairman,
Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla-171 004, Himachal Pradesh

18. The Director,
Directorate of Energy,
Shanti Bhawan, Phase-III, Sector-VI,
New Shimla-171 009, Himachal Pradesh

...Respondents

ORDER

This Petition has been filed by the Petitioner, NHPC Limited, seeking permission of the Commission for injection of infirm power into the grid up to 31.3.2023 or till declaration of commercial operation of 800 MW (4X200 MW) Parbati Hydroelectric Project, Stage-II (hereinafter referred to “the generating station”) in the State of Himachal Pradesh in terms of clause (7) of Regulation 8 of the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State transmission and related matters) Regulations, 2009 (hereinafter referred to as ‘the Connectivity Regulations’). The Petitioner has made the following prayers:

“(a) Allow extension of time for injection of infirm power from all four units of Parbati-II Hydroelectric Project beyond 31.3.2023 and upto 31.12.2023 or actual COD of individual units, whichever is earlier, as per provisions of Regulation 8(7)(b)(b) of Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009 read with Regulation 43.3 (a) of the Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission Systems) Regulations, 2022 ; and

(b) Pass such further order or orders as may be deemed fit and proper in the facts and circumstances of the case.”

2. The Petitioner has submitted that the generating station consists of four units (4x200 MW). Scheduled COD of the generating station was 11.9.2009. It is submitted that unit-I and unit-II of the generating station were first synchronized with grid on 14.9.2018 and 22.9.2018 respectively with available water from Jiwa Nallah. However, due to unavailability of surplus water, unit-I and unit-II could not be declared under commercial operation. Accordingly, with the prior permission of NRLDC, unit-I and unit-II of the generating station were re-synchronised with the grid on 5.7.2019 and 6.7.2019 respectively. The Petitioner has submitted that the Project has been generating infirm power since synchronization of its units depending upon the availability of water. The total quantum of infirm power generated by the Project till date i.e 4.12.2022 is to the tune of 1089.58 MUs including 42 MUs generated till 8.12.2018. The Petitioner has submitted that it is selling infirm power in Power Exchange after implementation of DSM Regulations, 2022 and it has sold 3.63 MUs in the market till 31.1.2023.

3. The Commission in its order dated 12.7.2022 in Petition No. 191/MP/2021 had allowed injection of infirm power of all four units of the generating station up to 31.3.2023 or actual date of commercial operation, whichever is earlier. The Petitioner has submitted that the units could not be declared under commercial operation within given timeframe due to the following reasons:

(a) **Balance HRT works:** Completion of HRT is on the critical path of completion of the project. Out of the total length of HRT of 31545 meters, around 10124 meters of HRT works (as on 15.1.2023) is still remaining due to the following reasons:

(i) HRT through Face-4: For HRT from face-4, TBM face is passing through highly abrasive and high strength quartzite rock. Major hindrances resulting in delay since the re-synchronization of Unit-I is as follows:

*Rock bursting during and after excavation resulted in increase in quantum of support system like fore polling, continuous installation of ribs and McNally plates etc., which consumed considerable time;

*Hard rock conditions resulted in frequent change of cutters, which consumed considerable time;

*Frequent faults in hydraulic systems in TBM resulted in hindrance. The faults were rectified in the month of June, 2019 after taking a maintenance stopover;

*Second scheduled stopover maintenance was taken from 1st August to 7th August, 2019;

*Ingress of water of the order of 4000 lpm (litre per minute) in the month of August, 2019 hampered the excavation progress;

*Formation of large cavities (up to 4m high) due to rock-fall from the crown areas affected the progress in excavation work badly;

*Fore-polling was carried out in order to arrest the rock-fall which further reduced the time available for excavation, resulting in slow progress;

*Third scheduled stopover for maintenance of cutter head buckets, gripper cylinder and thrust cylinder were taken from 30.12.2019 to 10.1.2020;

*Two gripper cylinders and two main drive motors had to be replaced in the month of March 2020;

*Excessive Rock-fall and formation of large cavities during the month of March, 2020 hampered the progress. As a result, progress of only 8.70 m could be achieved during the month;

*Work came to standstill due to lockdown w.e.f. 22.3.2020 to 23.4.2020 due to covid-19 pandemic. However, the work was suffered due to various restrictions imposed by Central Government and State Governments;

*Major maintenance of TBM was carried out from 27.4.2021 to 17.5.2021. However, during maintenance, repair and testing works of thrust and gripper cylinders (including removal and re-installing), cutter head face hardening and main bearing seal replacement were carried out;

*Excavation activities were hampered due to various travel restrictions imposed by Government during second wave of Covid-19 pandemic and the oxygen cylinder available with the contractor were taken-over by District Administration. Due to shortage of oxygen, maintenance activities were hampered;

* Progress was hampered due to hard rock conditions in July, 2021 and August 2021;

*Due to ingress of water from face, there was intermixing of muck with water. The silt got accumulated in invert of L1, L-2 area and beneath the California deck. The material had to be removed manually and using sludge pump. This affected progress of works during February, 2022, March, 2022 and April, 2022; and

*Progress hampered due to machine fault such malfunctioning of gripper cylinder and thrust cylinder, malfunction of primary conveyor belt.

*Planned maintenance of TBM was carried out from 11.6.2022 to 15.6.2022 and 26.6.2022 to 30.6.2022. TBM hydraulic system repaired and maintenance including flushing of valves and replacement of hydraulic oil, repaired of thrust pumps, bucket no. 01 and 06 of cutterhead repaired, and hydraulic oil of main tank & 01 no gripper was replaced.

*TBM maintenance work was again taken up from 26.7.2022 to 15.8.2022. Hard facing of cutter head, new stiffener fixing, installation of 7 no gripper cylinders and 16 nos PVR on all gripper cylinders was done.

*Low TBM penetration rate due to extremely hard work rock conditions encountered from 5.9.2020 to 16.9.2022. Rock bursting on 6.9.2022 at

rib erection area and subsequent muck removal activities were carried out up to 19.9.2022.

*Due to heavy rock bursting, TBM roof, Kelly and invert scraper plates were damaged on 4.11.2022. Repair/maintenance of TBM carried out from 4.11.2022 to 15.11.2022 due to which excavation could not be carried out.

*Problem due to alignment issue resulted in cracking/damage of eye joint connecting left side shield support and invert scraper. Repaid/maintenance carried out from 15.12.2022 to 28.12.2022 and excavation resumed from 29.12.2022.

(ii) HRT through Face-2, Face-3 and Face-6: These HRT works were awarded to Valecha Engineering Ltd. in the year 2013. However, due to poor performance, the contract was terminated in December 2018. The tender for balance works (DBM package) was floated in the year 2019. However, it was extended multiple times due to poor response/ high rates from the bidders. Finally, 1500 meter stretch and downstream of Face-3 have been awarded to Gammon Engineers and Contractors Private Limited on 2.6.2020. Mobilization activities were hampered as the site could not be handed over to the new contractor due to agitation/hindrances created by labours/workers of the previous contractor. Site could be handed over to the contractor only on 16.8.2020 after several rounds of negotiations involving labour unions, local people, contractor and the District Administration. After completion of dewatering activities and other associated works such as illumination, electrification and excavation activities were started on 3.1.2021. Excavation of 646.85m was completed till 12.7.2021.

-Based on tunnel seismic prediction test, tunnel was detoured from 27m short of already excavated face towards left on 31.10.2021.

-On 1.12.2021, when face was at RD+61m, there was again an ingress of water with silt and the tunnel was again inundated. After dewatering, removal of muck and installation of supports, excavation activities resumed on 21.1.2022.

-With continuous treatment works by drilling & grouting, fore polling and by installation of support, weak zone was successfully negotiated at around RD 91m.

-Grouting activity was taken up in Face-2. As on date, grouting in only 44m reach is balance near the junction of Face-2 & Face-3 and shall be taken up at the time of concrete plugging.

-40.72m of HRT from Face-6 will be excavated after completion of excavation from Face-4 else it will interfere with TBM works.

4. The Petitioner has submitted that in view of the above reasons, the entire project is expected to be completed by December, 2023.

5. The Petition is admitted by circulation.

6. We have considered the submissions of the Petitioner. Regulation 8(7) of the Connectivity Regulations provides as under:

“Notwithstanding anything contained in clause (6) of this Regulation and any provision with regard to sale of infirm power in the Power Purchase Agreement, a unit of a generating station including a captive generating plant which has been granted connectivity to the inter-State Transmission System in accordance with these regulations shall be allowed to inter-change infirm power with the grid during the commissioning period, including testing and full load testing before the COD, after obtaining prior permission of the concerned Regional Load Despatch Centre for the period mentioned as under:

(a)...

(b) Injection of infirm power shall not exceed six months from the date of first synchronization.

Provided that the Commission may in exceptional circumstances, allow extension of the period for inter-change of power beyond the period as prescribed in this clause, on an application made by the generating station at least two months in advance of completion of the prescribed period:

Provided further that the concerned Regional Load Despatch Centre while granting such permission shall keep the grid security in view.”

7. The Petitioner has submitted that it has made all efforts to ensure completion of activities of the units of the generating station within stipulated time but could not

succeed for reasons beyond its control. The Petitioner has further submitted that due to Covid-19 pandemic, for the period from 25.3.2020 to 31.5.2020, the site activities of the units have been hampered and it could not start the balance works. The Petitioner has reiterated that due to reasons as enumerated in paragraph 3 above, it was not able to complete the testing, including full load testing within the prescribed period from the date of first synchronization of unit-I and unit-II of the generating station and the project as a whole is expected to be commissioned by December, 2023. Accordingly, the Petitioner has sought the permission to inject infirm power till 31.12.2023 or actual date of commercial operation, whichever is earlier. The Petitioner has submitted that revenue earned from injection of infirm power will be reduced from the capital cost of the project, which would decrease the tariff and it shall be beneficial to the beneficiary States of the Project.

8. Taking into consideration the difficulties faced by the Petitioner as submitted by it as quoted in paragraph 6 above, we are of view that the circumstances stated by the petitioner are exceptional circumstances within the meanings of the Regulations and inclined to exercise power under provision clause of Regulation 8(7) of the Connectivity Regulations. We, hereby allow injection of infirm power into the grid for commissioning tests including full load testing of all four units of the generating station up to 31.12.2023. The Petitioner shall make all efforts to commission the project by December, 2023 as submitted. It is, however, clarified that extension of time granted as above shall not automatically entitle the Petitioner for IEDC/IDC for the delay in declaration of COD from the scheduled COD, which shall be decided separately in accordance with the relevant provisions of the Tariff Regulations. Let an extract copy of the order be provided to the concerned Regional

Load Despatch Centre, which will while granting such permission shall keep the grid security in view.

9. In terms of the above, the Petition No.69/MP/2023 is disposed of.

Sd/-
(P.K.Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I.S. Jha)
Member

sd/-
(Jishnu Barua)
Chairperson