

PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SITE NO. 3, BLOCK B, SECTOR 18-A MADHYA MARG, CHANDIGARH

Petition No. 54 of 2021
Date of Order: 03.01.2022

Petition under Section 86 (1) (b) of the Electricity Act, 2003 read with Rule 8 of the Electricity Rules, 2005 and the Punjab State Electricity Regulatory Commission (Power Purchase and Procurement Process of Licensee) Regulations, 2012, Regulation 45 of the Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005 and other Applicable provisions for approval of the Power Procurement from the Vishnugad Pipalkoti Hydro Electric Power Plant of Tehri Hydro Development Corporation Limited and Subansiri Lower the project of NHPC Limited.

AND

In the matter of: Punjab State Power Corporation Limited, The Mall,
Patiala, Punjab.

.....Petitioner

Present: Sh. Viswajeet Khanna, Chairperson
Ms. Anjali Chandra, Member
Sh. Paramjeet Singh, Member

ORDER

1. Punjab State Power Corporation Limited (PSPCL) has filed the present Petition for the approval of the power procurement from the following Hydro Power projects -
 - (i) Vishnugad Pipalkoti Hydroelectric Power Plant (444 MW) located in the district of Chamoli in the State of Uttarakhand for 26.9 MW capacity for which Power Purchase Agreement dated 05.06.2007 was executed between PSEB and Tehri Hydro Developments Corporation Limited (hereinafter 'THDC').

(ii) Subansiri Lower HE Project (2000 MW) located in Arunachal Pradesh for 64MW capacity for which Power Purchase Agreement dated 17.05.2011 was executed between PSPCL and NHPC Limited.

2. The submissions made in the petition are summarized as under:

2.1 PSPCL has submitted that the PPA dated 05.06.2007 was entered into between Tehri Hydro Development Corporation Ltd. (THDC) and Punjab State Electricity Board (PSEB) and PPA dated 17.05.2011 was entered into between NHPC Limited and PSPCL. Govt. of India Ministry of Power vide letter dated 14.07.2009 allocated 12.76% power from Subansiri Hydro Electric Project (2000 MW) of NHPC in Arunachal Pradesh to Punjab and vide letter dated 26.12.2011 allocated 6.05% power from Vishnugad Pipalkoti HEP (444 MW) in Uttarakhand.

2.2 That the Commission has the jurisdiction to regulate the electricity purchase and procurement process of the distribution licensees in the State under the PPA/Agreements entered into by PSEB/PSPCL in terms of Section 86(1)(b) of the Electricity Act, 2003 read with Rule 8 of the Electricity Rules, 2005 and the Punjab State Electricity Regulatory Commission (Power Purchase and Procurement Process Of Licensee) Regulations, 2012, Regulation 46 of the Punjab State Electricity Regulatory Commission (Conduct Of Business) Regulations, 2005.

2.3 That the National Electricity Policy, 2005 notified by the Central Government in exercise of the statutory powers under Section 3 of the Electricity Act, 2003 provides for promotion of Hydro Power. With effect from 08.03.2019, the Ministry of Power, Government of India has also declared Large Hydro Power (more than 25 MW) as a renewable energy source and it has

been stated that a separate hydropower purchase obligation shall be notified in respect of Large Hydro Plants.

2.4 That on 29.01.2021, the Ministry of Power, Government of India issued the Renewable Purchase Obligation trajectory including the Hydro Purchase Obligation for the States which specifies Hydro PO 0.35% for FY 2022-23, notifying rise upto 2.82% of the total consumption for FY 2029-30.

2.5 That the Commission has also observed the benefits of hydro power procurement and has considered the Office memorandum dated 08.03.2019 passed by the Ministry of Power in its decision dated 08.12.2020 in Petition No. 04/2020 – relating to the approval of power procurement from the Hydro/Nuclear sources. The relevant extracts of the decision dated 08.12.2020 passed by this Commission reads as under:

7.4 Accordingly, as mandated under the Electricity Act, 2003 read with Electricity Rules, 2005 and provisions specified in PSERC Regulations, the Commission proceeds to consider the grant of approval on the criteria of its need/necessity and whether the same has reasonable cost and is economical or efficient in the prevalent circumstances:

.....

b) Whether power purchase from the Hydro & Nuclear Power stations is reasonable in cost, economical or efficient:

PSPCL has submitted that as per the latest Regulations notified by the Central Commission on dated 08.03.2019, the useful life of hydro power plants has been increased to 40 years from the existing 35 years which will benefit it in getting the power for another 5 years at the reduced tariff and will also facilitate reduction of tariff from the 13th year onwards (i.e. after loan repayment obligations are fulfilled) as the rate of depreciation will be reduced to about 1.07% from the existing rate of about 1.30%. Further, the annual escalation in O&M

expenses has been reduced from the existing 6.64% to 4.77% (i.e. approx. 30% reduction in escalation rate).

The Commission observes that, the cost of power procurement from all of the hydro projects under consideration is reasonable as the same would be used to meet the demand during the peak/paddy season. Further the cost per unit of hydro stations reduces with time. Also, the Ministry of Power vide its Office Memorandum dated 08.03.2019 has declared large hydro power projects (>25MW) as Renewable Energy Source and the Commission would like to encourage procurement from these sources at a reasonable cost. Further, MoP GOI shall be mandating a separate provision for Hydropower Purchase Obligation (HPO) in addition to the existing Renewable Purchase Obligation (RPO). The power from these hydro stations would qualify for the Hydro power obligation as and when mandated.

2.6 That the details of Vishnugad Pipalkoti Hydroelectric Power Plant (444 MW) are as under:

Location	Chamoli, Uttarakhand
Total Capacity	444 MW
PSPCL Share	26.9 MW (6.05%)
Date of Signing of the PPA	05.06.2007
Period for which the PPA is valid	35 years
Commissioning Date (Tentative)	2023-24
Levelized Tariff	Rs. 4.52/kWh
First year Tariff	Rs 4.71/kWh

- i) The Power Purchase Agreement was entered into between PSEB and THDC on 05.06.2007 through the allocation route. THDC has stated that considering the Capital Cost of Rs. 3860.35 Crores at February, 2019 price level which was duly vetted by Central Electricity Authority (CEA) vide letter dated 16.03.2020, the levelized and first year tariff of Vishnugad Pipalkoti HEP based on

the relevant norms of the Central Commission work out to Rs. 4.52/kWh & Rs. 4.71/kWh respectively.

- ii) That the tariff in the present case enables PSPCL to effectively meet its Hydro Power Purchase Obligations (HPO) targets, through procurement of hydro power from THDC instead of relying on purchase of Hydro Energy Certificates as proposed in the MoP office memorandum of January, 2021 and therefore is more beneficial for the public interest and the interest of the consumers.
- iii) That Long Term Access (LTA) for transfer of power from the Vishnugad HEP has been granted to THDC vide letter dated 17.03.2021 from Powergrid Corporation of India Limited. However, for the said grant of LTA to be effective a Long Term Access Agreement is required to be entered into by the Petitioner with Powergrid in terms of the relevant Central Electricity Regulatory Commission (Connectivity Regulations). THDC vide letter dated 18.03.2021 has requested PSPCL to sign the LTA with Powergrid.
- iv) That even though the Project is scheduled to be commissioned in the Financial Year 2023-2024, the approval for the procurement of power from Vishnugarh Pipalkoti HEP is sought as it is necessary for the PPA dated 05.06.2007 executed between the THDC and the Petitioner to be approved by the Commission before PSPCL can execute the Long Term Access Agreement with Powergrid for scheduling of power from the Vishnugad Pipalkoti HEP.

2.7 PSPCL has submitted the details of Subhansiri Lower Hep Project (2000 MW) of NHPC Limited as under:

Location	Arunachal Pradesh
Total Capacity	2000 MW (8 X 250 MW)
PSPCL Share	64 MW
Date of Signing of the PPA	17.05.2010
Period	5 years from COD of last unit
Commissioning Date (Tentative)	2 No. Units likely to be commissioned by August 2022 and balance Units by August 2023.
Levelized Tariff	Rs.5.38/kWh (tentative), subject to tariff determination by the Central Commission

- i) The PPA dated 17.05.2011 was entered into between PSPCL and NHPC through the allocation route. The total capacity allocated to PSPCL – 64 MW was through the Central Government Allocation letter dated 14.07.2009. Since the commissioning of the Subhansiri HEP is stated to be in the same financial year as Vishnugad Pipalkoti HEP, PSPCL is also praying for the power procurement approval in respect of the same.
- ii) That the HPO trajectory has been notified as 2.82% for the FY 2029-30 i.e. approximately 1866 Mus. As on date, PSPCL has a hydro tie up to the extent of 476 MW/ 1875 MUs tentatively (expected to be commissioned by FY 2024-25 including power from Vishnugarh and Subhansiri) i.e.2.82% of the total consumption. Therefore, procurement of power from Vishnugarh HEP and Subhansiri Lower HEP would allow PSPCL to meet its Hydro Purchase Obligation.
- iii) That Vishnugarh Pipalkoti HEP and Subhansiri Lower HEP are both Central Government owned and controlled

Companies and the tariff for the same will be determined by the Central Commission in terms of Section 79(1)(a) of the Electricity Act, 2003.

3. The Petition was admitted vide order dated 01.11.2021 observing as under:

- a) Ministry of Power has increased the useful life of hydro projects from 35 years to 40 years. PSPCL to intimate useful life of the Vishnugad Pipalkoti Hydropower project and Subhansiri lower hydropower project considered while calculating the Levelised Tariff of these projects.
- b) PSPCL has not mentioned generation profile of these plants and is required to study the generation profile of these power plants as to whether it matches with load profile of Punjab.
- c) Vishnugad Tapovan hydropower project was damaged in floods. PSPCL to intimate any impact of floods on the Vishnugad Pipalkoti hydropower project and its capital cost.
- d) PSPCL has submitted the unapproved tentative Levelised tariff in respect of Subhansiri Lower hydro power project and has not provided the capital cost or other basis of calculation of the tariff.
- e) In para 19 of the petition, PSPCL has submitted that the tentative commissioning date of Subhansiri Lower hydro power project is August 2023 and its PPA is valid only for 5 years i.e. up to August 2028 (tentatively). So its power may not be available to PSPCL during FY 2029-30.

PSPCL was directed to file its reply to the above observations of the Commission within two weeks.

4. PSPCL submitted its reply vide letter dated 26.11.2021. PSPCL has submitted the generation profile of Vishnugad Pipalkoti HEP and has submitted that the levelized tariff of Rs 4.52/kWh is

taking into consideration a useful life of 40 years of the Hydro Power Plant. There was a massive glacial outburst on 07.02.2021 in Rishiganga valley in district Chamoli. The dam area of the Vishnugad Pipalkoti HEP got flooded and due to this glacial outburst, there was almost no impact on Vishnugad Pipalkoti HEP hydropower project.

4.1 With regard to Subhansiri Lower HE Project (2000 MW), PSPCL has also submitted the generation profile of the project and has further submitted that as per CERC Tariff Regulations, 2019 for control period 2019 to 2024, the useful life of a hydro project is 40 years. Therefore, while calculating LT of Subansiri Lower HE Project, useful life has been taken as 40 years. The tentative Capital Cost of Subansiri Lower Project shall be of Rs.19992.43 Crores (at January 2020 price level) and the same has been taken for calculation of tentative LT. The tentative commissioning of two units (2x250MW) of Subansiri Lower Project is by August 2022 and of other units by August 2023.

4.2 That the validity of the PPA dated 17.05.2011 entered into with NHPC, Article 14 (Duration of Agreement) inter-alia reads as under:-

“This agreement shall come into force from the date of signing and shall remain operative for 5 years from the date of commercial operation of the last unit of project provided that this agreement may be mutually extended, renewed or replaced by another agreement on such terms and for such further period of time as the parties may agree to. However the provisions of this agreement shall continue to operate till this agreement is formally renewed, extended or replaced, in case bulk power customer continues to get power from the NHPC station even after expiry of this agreement without further renewal or formal extension thereof”

Therefore, while the initial duration of the PPA is envisaged to be 5 years, so long as PSPCL continues to avail power, the PPA

shall stand extended until formally renewed or extended. The same dispensation was applicable in the case of other NHPC Stations as well (Sewa-II, Uri-II, Chamera-III, Parbati-III etc.) all of which were approved by the Commission in its Order dated 08.12.2020 in Petition No. 4 of 2020.

5. After hearing the Ld. Counsel for PSPCL, the Order was reserved vide order dated 10.12.2021.

6. **Observations and Decision of the Commission:**

The Commission has examined the submissions made by PSPCL in the petition and information submitted during the course of hearings. After hearing the counsel for PSPCL, the observations of the Commission are as under:

6.1 PSPCL has averred that the PPAs were entered into pursuant to the Central Government allocation.

6.2 Regulation 13 of the Punjab State Electricity Regulatory Commission (Power Purchase and Procurement Process of Licensee) Regulations 2012 specifies as under:

“ 13. Power Purchase Arrangements or Agreements

Any new long term power purchase arrangement or agreement and amendments to existing PPA entered into by Distribution Licensee(s), shall be subject to prior approval of the Commission under section 86 of the Act, in respect of:-

- (i) Necessity;*
- (ii) Reasonability of cost;*
- (iii) Promoting efficiency, economy, equitability and competition ;*
- (iv) Conformity with regulations for investment approval;*
- (v) Conformity with requirements of quality, continuity and reliability of supply;*

- (vi) *Conformity with safety and environmental standards;*
- (vii) *Conformity with criterion of power purchase as laid down by the Commission;*
- (viii) *Conformity with policy directives of the State Government and policies issued by the Government of India viz. National Electricity Policy, Tariff Policy, long term and short term power procurement guidelines.”*

The above provision mandates that the long term power purchase arrangement of the distribution licensee shall be subject to the specific/prior approval of the Commission in respect of need/necessity and reasonability of cost with the objective being to make available secure and reliable power supply at economically viable tariffs.

6.3 Need/Necessity for procurement on long term basis:

- i) As per THDC India limited letter No. 7724 dated 04.09.2019, submitted by PSPCL, the annual design energy of Vishnugad Pipalkoti HEP plant is 1479.38 MUs. The energy available during peak paddy season of June to September is 880.23 MUS which is around 60% of the total design energy.
- ii) The annual design energy of Subhansiri Lower HEP project is 7421.61 MUs. The energy available during peak paddy season of June to September is 4039.14MUS which is around 55% of the total design energy.

More than 50% generation from these hydropower plants is available during June to September of each year for meeting the peak season demand of summer/paddy.

- a) The Commission notes the PSPCL's submission that as per the HPO trajectory notified by MoP, GoI it is set to raise from 0.35% in FY 2022-23 to 2.82% for FY 2029-30 i.e.

approximately 1866 MU. Also, PSPCL has a hydro tie up to the extent of 476 MW/1875 MU tentatively as on date including power from Vishnugarh and Subhansiri HEP plants i.e. 2.82% of the total consumption.

The Commission observes that power from Vishnugad Pipalkoti and Subhansiri Lower hydro electric power plants would be suitable for PSPCL firstly due to availability of more than 54% of energy generation in peak demand season (June to September) and secondly in achieving the notified HPO trajectory.

6.4 Reasonability of cost:

a) the Capital cost of Vishnugad Pipalkoti HEP plant is Rs. 3860.35 Crores at February, 2019 price level which has duly been vetted by Central Electricity Authority (CEA) vide letter dated 16.03.2020 and the levelized and first year tariff of Vishnugad HEP based on the relevant norms of the Central Commission works out to Rs. 4.52/kWh & Rs. 4.71/kWh respectively.

b) The tentative Capital Cost of Subansiri Lower HEP Project considered for the purpose for calculation of tentative Levelised tariff is Rs.19992.43 Crores (at January 2020 price level). The Capital cost has neither been vetted from Central Electricity Authority (CEA) or approved by the Central Electricity Regulatory Commission (CERC). The tentative Levelised tariff of Subansiri Lower HEP Project has been submitted by PSPCL is Rs.5.38/kWh.

The Commission observes that the Tariff of both the power plants has not yet been determined by the Central Electricity Regulatory Commission. However, in respect of Vishnugad Pipalkoti HEP Plant, the submitted Levelised Tariff of 4.52

Rs./kWh is based on the relevant norms of the CERC and its Capital cost has been vetted by Central Electricity Authority (CEA) at February 2019 price level. **The Commission observes that, the cost of power procurement from Vishnugad Pipalkoti HEP Plant is reasonable at the indicated levelised tariff of Rs. 4.52 kWh as the same would be used to meet the demand during the peak demand season in Punjab and also helps in achieving the HPO trajectory. Accordingly, the Commission approves procurement of 26.9 MW from Vishnugad Pipalkoti HEP Plant in order to enable PSPCL to enter into LT agreement with PGCIL. However, Once CERC determines the tariff for the project PSPCL may approach PSERC for adoption of the same.**

Further, the Levelised Tariff submitted in respect of Subhansiri Lower HEP project is tentative and the Capital cost has not yet been vetted/approved by CEA or CERC. **As such the Commission does not find it prudent to approve the procurement of power from Subhansiri Lower HEP project at this point of time. However PSPCL is at liberty to approach the Commission, once firm Levelised Tariff of the project is available.**

The petition is disposed of accordingly.

Sd/-

(Paramjeet Singh)
Member

Sd/-

(Anjuli Chandra)
Member

Sd/-

(Viswajeet Khanna)
Chairperson

Chandigarh

Dated: **03.01.2022**