

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

Petition No. 37 of 2020
Date of Order: 08.01.2021

Petition under Regulation-9 of the PSERC (Terms and Conditions for determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019 and Section 40 of the Electricity Act, 2003-for improvement initiatives to be taken up for transmission network.

AND

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

.....Petitioner

Present: Ms. Kusumjit Sidhu, Chairperson
Ms. Anjuli Chandra, Member
Mr. Paramjeet Singh, Member

ORDER:

1. This petition has been filed by Punjab State Transmission Corporation Limited (PSTCL) seeking approval for capital investment in transmission works of Evacuation system for 206MW Shahpur Kandi Hydel Project and 400kV substation Nakodar.

2. The submissions of PSTCL are summarized as under:

2.1 Power evacuation system for Shahpur Kandi Hydel Project:

The works are required for evacuation of Power of upcoming 206 MW Shahpur Kandi Hydel project scheduled for 2022. The Civil works of main dam of Shahpur Kandi HEP was stopped by the GoP authorities on 30.08.2014. Accordingly, PSPCL had put on hold all the electro-mechanical works under its control till resolution of the dispute. Therefore, the

said evacuation work was not included in the MYT plan for 1st Control period (FY 2017-18 to FY 2019-20). Now on 31.10.2018, GOP has given the go ahead for the construction activities and the project is likely to be commissioned by 30.04.2022. Accordingly, the work was re-planned and is needed to be included in the MYT plan for 2nd Control period (FY 2020-21 to FY 2022-23). However, as the proposal was submitted subsequent to the CIP petition of 2nd MYT control period, the same was not considered by the Commission.

This work is of power evacuation plan which needs to be commissioned on priority. The estimated cost of Project is Rs. 18.73 Crore with expenditure to be incurred during 2020-21 & 2021-22. The said work stands approved by BODs of PSTCL as an emergent work in its 59th meeting dated 05.02.2020.

2.2 400kV Sub Station Nakodar:

The work is required for N-1 compliance of 400 kV Substation Nakodar. Work of replacement of 1x315 MVA ICT with 1x500MVA ICT (Rs. 16.17 Crore) and dismantlement of 1x315 MVA ICT (Rs. 0.58 Crore) was approved by the Commission in the Capital Investment Plan for 2nd MYT control period 2020-23.

On 14.07.2020 the maximum Loading on each of 315 MVA ICT-1 & ICT-2 was recorded as 88.04% and 87.77% respectively and it was observed that shutdown of one of the ICTs will render Nakodar N-1 non compliant, as it will require about 3 months for replacement and it will not be possible for a single 315MVA ICT to take such loads. Accordingly,

PSTCL reviewed the proposal and decided that 1x315 MVA ICT be augmented with 1x500 MVA ICT by installing it on new plinth along with associated 400 kV & 220 kV ICT bays. 315 MVA ICT shall be shifted there after upon energization of the new 500 MVA ICT.

Further, it has been observed that as per load flow study for 2023, the 2nd ICT at 400kV Nakodar of 315MVA also becomes due for augmentation, as it starts showing N-1 constraint. Since arrangement of the additional bay is already proposed to be constructed at Nakodar, the augmentation of 2nd ICT i.e. 315MVA to 500MVA is convenient and easy to execute. Accordingly, it is proposed that 2nd 315 MVA ICT spared by augmentation with 500MVA ICT during FY-2022-23 from 400kV Nakodar shall be used at 400kV Dhanansu.

Table 1: 400kV substation Nakodar (in Rs. Crore)

Sr. No.	Name of the Work	FY 2020-21	FY 2021-22	FY 2022-23	Spillover	Total
1	Replacement of 1x315MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT	0	15.0	3.72		18.72
2	Cost of dismantlement of 1x315MVA, 400/220 kV ICT at 400kV Nakodar	0	0.28	0.30		0.58
3	Construction of 1 No. ICT bay and 1 No. 220 kV ICT bay at 400kV Nakodar with interlinking link of 220kV	0	5.0	1.66		6.66
4	Replacement of 2 nd 315 MVA 400/220 kV ICT with 2 nd 500 MVA, 400/220 kV ICT	0	0	15.0	3.72	18.72
5	Cost of dismantlement of 2 nd 315MVA, 400/220 kV ICT at 400kV Nakodar	0	0	0.28	0.30	0.58
	Total	0.0	20.28	20.96	4.02	45.26

3. The petition was admitted vide Order dated 02.11.2020. Public notice inviting objections from the general public/stake holders was published but no objection has been received in response to the public notice. However, PSPCL vide letter

No.1144 dated 20.11.2020 submitted that the commissioning of the Shahpur Kandi Power Project will be delayed due to delay in award of the civil works of the power houses by the Water Resources Department, GoP and the likely date of commissioning of the project be considered as April 2024 in place of 30.04.2022 mentioned in the petition.

4. The petition was taken up for hearing as well as public hearing on 01.12.2020. However, nobody appeared from the public except for the representatives of PSTCL & PSPCL. PSTCL was asked to come up with the detailed information after ascertaining that the capital works proposed in the petition are not covered in the capital works of the Shahpur Kandi Power Project being undertaken by PSPCL and that land/right of way has not already been arranged by PSPCL. In response thereof, PSTCL vide email dated 08.12.2020, submitted the following:

- i) PSPCL has confirmed that 220 kV D/C interconnecting transmission line from SKPP, Power House-1 to SKPP Power House-2 is included in the revised cost estimate of the upcoming 206 MW Shahpur Kandi Project. As such, the expenditure to be incurred for this link only shall be paid upfront to PSTCL.
- ii) The other works of the evacuation plan as envisaged by PSTCL in the petition have to be executed by PSTCL as part of the system improvement works through their annual capital plan, as the scope of designing, planning, erecting and maintaining the transmission network of 220 kV and above falls under the scope of the PSTCL organization as communicated by PSPCL through letters

dated 27.09.19, 11.10.19, 18.10.19 and 18.11.19. PSPCL is paying lump sum amount of transmission charges to PSTCL to use their transmission network, the expenditure incurred for the evacuation plan may be charged from PSPCL in the form of the transmission charges as per approved norms, as being done now.

- iii) No land has been acquired in advance for evacuating power from the Shahpur Kandi hydro project.
- iv) PSPCL has confirmed that the date of commissioning of Shahpur Evacuation Hydel Project is April, 2024. However, the execution of line cannot be delayed as the Right of Way for transmission lines always remains an issue and being an evacuation line of a generating plant, no risk for delay of line can be taken.
- v) Accordingly, the split up of expenditure year wise is as under:

Table 2: Power Evacuation System of Shahpur Kandi Hydel Project

(in Rs. Crore)

Sr. No.	Name of the Work	Total Project Cost	FY 2020-21	FY 2021-22	FY 2022-23	Spillover
1	220kV Shahpur Kandi Ph-I 220KV Shahpur Kandi Ph-II i) 4KM (SC on DC, 0.5 sq in. conductor. ii) 2 No. bays	6.31	To be funded by PSPCL as upfront payment			
2	LILO of one circuit of 220kV RSD-220kV Sarna at Shahpur Kandi Ph-I & Ph-II 9km DC on DC, 0.5 sq in. conductor	9.81	0.5	4.0	5.0	0.31
3	220kV Bays (2 No.)	2.60	0.0	0.70	1.50	0.40
	Total (2+3)	12.41	0.5	4.70	6.50	0.71

- 5. During the hearing held on 09.12.2020, the Commission raised certain issues regarding the PSTCL's estimates vis-à-vis approved cost data for EHT lines and PSTCL requested

to submit the reconciled figures. After hearing PSTCL/PSPCL officers, the order was reserved.

6. In response to the above said observation made by the Commission, PSTCL vide email dated 14.12.2020 submitted the revised expenditure as under:

Table 3: Power Evacuation System of Shahpur Kandi Hydel Project (in Rs. Crore)

Sr. No.	Name of the Work	Total Project Cost	FY 2020-21	FY 2021-22	FY 2022-23	Spillover
1	220kV Shahpur Kandi Ph-I 220KV Shahpur Kandi Ph-II i) 4KM (SC on DC, 0.5 sq in. conductor ii) 2 No. bays	5.89	To be funded by PSPCL as upfront payment			
2	LILO of one circuit of 220kV RSD-220kV Sarna at Shahpur Kandi Ph-I & Ph-II 9km SC on DC, 0.5 sq in. conductor	8.35	0.5	4.0	3.5	0.35
3	220kV Bays (2 No.)	2.18	0.0	0.70	1.20	0.28
	Total (2+3)	10.53	0.5	4.70	4.70	0.63

7. However, PSPCL vide email dated 14.12.2020 enclosing memo No. 1189/95 dated 14.12.2020 has submitted that the work of 220kV switchyards at both the power houses up to the last gentry is in the scope of BHEL & the remaining work of power evacuation has to be executed by PSTCL. PSPCL requested PSTCL to exclude the work of 4 no. bays from its estimate. Given this discrepancy, the Commission decided to hear the matter again on 18.12.2020.
8. In the hearing dated 18.12.2020, PSTCL vide its letter No. 471 dated 16.12.2020 furnished the revised cost details of evacuation plan of Shahpur Kandi Power Project as under:

Table 4: Power Evacuation System of Shahpur Kandi Hydel Project (in Rs. Crore)

Sr. No.	Name of the Work	Total Project Cost	FY 2020-21	FY 2021-22	FY 2022-23	Spillover
1.	220kV Shahpur Kandi Ph-I 220KV Shahpur Kandi Ph-II 4KM (SC on DC, 0.5 sq in conductor)	3.71	To be funded by PSPCL as upfront payment			
2.	LILO of one circuit of 220kV RSD-220kV Sarna at Shahpur Kandi Ph-I & Ph-II 9km SC on DC, 0.5 sq in. conductor	8.35	0.5	4.0	3.5	0.35
Total (2)		8.35	0.5	4.0	3.5	0.35

After hearing both PSPCL & PSTCL, the Commission reserved the Order.

9. Observations and Decision of the Commission:

After careful consideration of the submissions made in the Petition and during the hearings, the findings and the decision of the Commission are as under:

i) Power evacuation system for Shahpur Kandi Hydel Project:

- a) The Commission notes that the scheme for power evacuation system for Shahpur Kandi Hydel Project has been approved by the BoD of PSTCL as emergent works as required under Regulation 9.14 of the PSERC Tariff Regulations, 2019.
- b) PSTCL has considered Rs. 92.77 lakh per Km for 9 km length of 220 KV SC line on DC Tower in its estimate which is more than the cost data approved by the Commission in May 2019. During the hearing, PSTCL submitted that the major work of the line is to

be executed during FY 2021-22 to FY 2023-24 onwards and it also includes other expenses, such as cost of land under towers, crop compensation charges, forest clearance charges, compensation charges for private trees, PTCC and re-engineering charges and railway crossing charges, which are normally part of an estimate. These charges would be applicable as per actual site conditions and can only be ascertained during the execution of line. Accordingly, the Commission decides to approve the scheme as under:

(in Rs. Crore)

Sr. No.	Name of the Work	Total Project Cost	FY 2020-21	FY 2021-22	FY 2022-23	Spillover
1.	LILO of one circuit of 220kV RSD-220kV Sarna at Shahpur Kandi Ph-I & Ph-II 9km SC on DC, 0.5 sq in. conductor	8.35	0.5	4.0	3.5	0.35

- c) In order to avoid duplication of capitalization, schemes covered under the Shahpur Kandi Power Project and executed by PSTCL (as deposit works for PSPCL) should not be indicated in the CIP of PSTCL.
- d) The Commission notes with concern that there has been a lack of coordination amongst PSTCL and PSPCL despite a specific directive issued by it in the Tariff Order for FY 2012-13 that both PSPCL & PSTCL shall coordinate the planning of transmission works (400, 220 & 132kV) and Sub Transmission works (66 & 33kV) Further, Regulation 9 of PSERC MYT 2019 also mandates that PSTCL/PSPCL shall provide a copy of

their capital investment plan to each other at the time of its filing with the Commission. In compliance of the above mentioned directives, PSPCL and PSTCL confirmed that a Joint Transmission Planning Committee has been constituted. The lack of coordination has resulted in PSTCL submitting an estimate of Rs. 8.91 Crore for works which were to be undertaken by BHEL under the Shahpur Kandi Hydrel Project works. In future PSPCL and PSTCL shall coordinate to avoid such errors.

- ii) **400kV Substation, Nakodar:** The Commission observes that the revised scheme has been approved by BoD. The Commission decides to grant approval to the revised scheme with capital plan as per Table 1 above in substitution to approved scheme No. 3a and 3b of Table 13 in Order dated 03.12.2019 in petition 19 of 2019.

The overall limit of Capital expenditure for the respective years shall remain the same as approved in Order dated 03.12.2019 in Petition 19 of 2019 read with para 4.4 of the PSTCL MYT Tariff Order for FY 2020-21 i.e. Rs. 400 Crore during each year for the 2nd MYT from FY 2020-21 to FY 2022-23.

The petition is disposed of accordingly.

Sd/-

(Paramjeet Singh)
Member

Chandigarh

Dated: **08.01.2021**

Sd/-

(Anjuli Chandra)
Member

Sd/-

(Kusumjit Sidhu)
Chairperson