CHHATTISGARH STATE ELECTRICITY REGULATORY COMMISSION
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Petition No. 82 of 2023

In the Matter of:

Approval of Additional Capital Investment Plan of CSPTCL for the control period from FY 2024 to FY 2025

Chhattisgarh State Power Transmission
Company Limited (CSPTCL), Danganiya, Raipur **... Petitioner**

PRESENT : **Hemant Verma, Chairperson**
: **Pramod Kumar Gupta, Member**

Appearance : **Shri. A.K. Ambastha, Chief Engineer, CSPTCL**

ORDER

(Passed on 15.03.2024)

This order is passed in the petition filed by Chhattisgarh State Power Transmission Co. Ltd. (herein after referred as CSPTCL or petitioner) for approval of Additional Capital Investment Plan for the control period from FY 2022-23 to FY 2023-24. The petition is filed under the provisions of Chhattisgarh State Electricity Regulatory Commission (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2021 (hereinafter referred as 'CSERC MYT Regulations, 2021').

2. In accordance with the provisions of the 'CSERC MYT Regulations, 2021, CSPTCL has published the gist of the petition in Navbharat, The

Hitwaad and Dainik Bhaskar new papers on 28.12.2023 for inviting objections/suggestions from the stakeholders. For this purpose, the petition was uploaded on the website of the Commission.

3. Technical Validation Session (TVS) and public hearing were conducted on 08.01.2024 and 24.01.2024 respectively.
4. No objection/suggestion was filed.
5. CSPTCL vide present petition, submitted different schemes of an amount Rs. 259.25 Cr. for approval as Additional Capital Investment Plan for the Control Period from FY 2022-23 to FY 2024-25.
6. Capital investment approved by CSERC vide their order dated 27.04.2022 in respect of CSPTCL CIP for FY 2022-23 to 2024-25 under various schemes are tabulated below:

(In INR Cr.)

Sr. No.	**Scheme**	**Scheme Provision**	**FY 23**	**FY 24**	**FY 25**
1.	Spill Over Works	2873.79	897.48	654.52	145.9
2.	New Normal Development Scheme (State)	2199.75	632	953.64	569.81
3.	New Normal Development Scheme (Central)	1606.19	331.5	720.79	526.9
4.	**Total**	**6679.73**	**1860.98**	**2328.95**	**1242.61**

7. In present petition, CSPTCL submitted that CSPDCL with duly approval of Managing Director, has requested to construct following new 132/33

kV substations. Technical feasibility for construction of aforesaid substations was examined by CSPTCL and accordingly proposal for construction of following new 132/33 kV substations (along with associated transmission lines) are given below:

i. 132/33 kV Substation Rohara Dist.-Balodabazar Bhatapara
ii. 132/33 kV Substation, Sargawa, Dist.-Surguja (Ambikapur)
iii. 132/33 KV Substation, Saraipali, Dist. - Raigarh
iv. 132/33 kV Substation, Lakhanpur, Dist.-Surguja (Ambikapur)

CSPTCL has submitted justification for construction of above-mentioned substations as under:

i. <u>132/33 kV Substation Rohara Dist. - Balodabazar</u>

CSPTCL submitted that at present power supply of Bhatapara town and Villages is being fed through 33 kV Bhatapara-III feeder emanating from 220/132/33 kV S/s Bhatapara and 33 kV Bilaspur (Damakheda) feeder emanating from 132/33 kV S/s Simga. The Voltage Regulation of existing 33 kV Bhatapara-III feeder is 5.39% and with horizon load 8.96% and Voltage Regulation of existing 33 kV Bilaspur feeder is 15.49% and with horizon load 25.71%, which is beyond the permissible limit i.e. 9%. Voltage Regulation after proposed construction of 132/33 kV Substation Rohara, 33 kV Bhatapara-III feeder is 1.69% and with horizon load 2.80% and Voltage Regulation of existing 33 kV Bilaspur feeder is 3.28% with horizon load 5.45%. At present, the maximum load on 33 kV Bhatapara feeder is 334 A and 33 kV Bilaspur feeder is 404 A, as there is no space available at 220 KV substation Bhatapara and 132 kV substation Simga for construction of additional 33 kV bay to bifurcate load of any feeder. Rohara Village is the load center for the proposed substation. Load growth for upcoming 5 years on proposed EHV substation is calculated 46.01%.

ii. **<u>132/33 kV Substation, Sargawa, Dist. - Surguja (Ambikapur)</u>**

CSPTCL submitted that at present power supply of Ambikapur city is being fed from 132/33 kV Substation Ambikapur, 9 Nos. 33 kV feeders are emanating from this substation, presently there is no space available for construction of additional 33 kV feeder bay and for installation of additional power transformer in 132 kV Substation Ambikapur. In the area adjacent to Ambikapur city, development of Engineering College, Medical College and industrial area are in progress, so an annual load growth of 15% to 20% is expected. Therefore, to provide power supply to these areas, new 132 kV substation Sargawa is urgently required to be constructed.

iii. **132/33 kV Substation, Saraipali, Dist. -Raigarh**

Presently at Village Saraipali, Dist.- Raigarh area, there are various existing EHV consumers having total contract demand of 20 MVA and request of enhancement of contract demand is also pending and request for additional 20 MVA EHV connectivity is awaited. Hence, total contract demand of Saraipali area has become 40 MVA and also a annual load growth of 27.99% is envisaged in this area. At Present, this area is connected from 220 kV Substation Gerwani. Due to dense forest area, new 132 kV and 33 kV line from 220 kV substation Gerwani is not feasible to construct for various EHV and HV consumers. Further, there is no space for construction of additional 132 kV feeder bays at 220 kV Substation Gerwani.

iv. **132/33 kV Substation, Lakhanpur, Dist-Surguja (Ambikapur)**

CSPTCL submitted that there is no space available for construction of additional 33 kV feeder bay at 132 kV substation, Ambikapur for new 33 kV line. To provide reliable power supply, there is requirement of construction of new 132 kV Substation at Lakhanpur. 2.5 MVA

sanctioned load of Medical College, Ambikapur is being fed by 33 kV Kalyanpur feeder through tapping. As this feeder supplies power to rural areas, hence, frequent tripping in the feeder is regular phenomenon which affects continuous supply to Medical College and associate hospital. In addition to above, SECL is connected through tapping in 33 kV Kumda feeder emanating from 132 kV Substation Ambikapur. This feeder also suffers frequent tripping which is affecting the production of SECL. Hence, SECL is also demanding separate direct feeder from 132 kV substation. Therefore, to provide reliable power supply to these areas, new 132 kV substation Lakhanpur is urgently required to be constructed.

8. With the above justification, CSPTCL has submitted proposal for construction of following sub-station:

(In INR Cr.)

Sr.No.	**Name of Proposed work for 132/33 kV Substation/ Lines**	**Capacity in MVA/ Route Length of lines in KM**	**Tentative Project Cost (Rs. in Crore)**
1.	132/33 kV Substation, Vill. Rohara, District - Balodabazar – Bhatapara	2× 40 MVA	35.00
	132 kV DCDS line from 220/132 kV substation, Suhela +02 No. 132 kV feeder bays at 220 kV Substation, Suhela	22 KM	27.15
2.	132/33 kV Substation, Sargawa, Dist. Surguja (Ambikapur)	2×40 MVA	35.00
	LILO of 132 kV DCDS Ambikapur - Bishrampur Line	20.3 KM	24.13
3	132/33 kV Substation, Saraipali, Dist Raigarh	2×40 MVA	35.00

	LILO of 132 kV DCSS Gerwani - Gharghoda Line	1.5 KM	1.97
4	132/33 kV Substation, Lakhanpur, Dist. Surguja (Ambikapur)	2×40 MVA	35.00
	LILO of 132 kV DCSS Bishrampur - Udaipur Line	8 KM	10.0
	Total		**203.25**

9. Apart from the proposal of construction of above substations, CSPTCL has proposed following system improvement works which are necessary for maintaining quality and reliable supply:

(In INR Cr.)

Sr. No.	**Name of Proposed work for 132/33 kV Substation/ Lines**	**Capacity in MVA/ Route Length of lines in KM**	**Tentative Project Cost (Rs. in Crore)**
1.	2nd Circuiting of 132 kV DCSS Kondagaon - Narayanpur line +02 No. 132 kV feeder bays.	49 KM	12.00
2.	2nd Circuiting of 132 kV DCSS Barsoor-Bijapur line +02 No. 132 kV feeder bays	88 KM	22.00
3.	LILO of 132 kV line at 132 kV Substation Siltara Phase -II +2 No. 132 kV feeder bays	12 KM	22.00
	Total		**56.00**

10. CSPTCL submitted that after approval of above proposed work, total scheme provision for the control period from FY 2022-23 to FY 2024-25 shall be as given in table below:

(In INR Cr.)

Sr. No.	Scheme	Scheme Provision
1.	Original CIP for FY 2022-23 to FY 2024-25 approved vide order dated 27.04.2022	6679.73
2.	Additional CIP for FY 2022-23 to FY 2024-25 approved vide order dated 05.11.2022	278.16
3.	Additional CIP for FY 2022-23 to FY 2024-25 proposed in the present petition	259.25
	Total	**7217.14**

11. In relation to funding of the proposed schemes, CSPTCL submitted that funding of the proposed additional capital works shall be met through obtaining loan from PFC/other financial institutions to the tune of 70% of scheme provision and balance 30% shall be met out through internal resources.

Commission's view

12. The Commission has analyzed the aforesaid capital works and justification provided for the same by CSPTCL. Considering the load growth and voltage regulation issue, the Commission is of the view that there is no alternative solution to address the above issues rather to construct new substations along with associated line and take up the system improvement work as proposed by the CSPTCL. Therefore, the Commission approves the above capital work as proposed by CSPTCL with funding of debt:equity ratio of 70:30.

13. After this approval, the total approved capital work for the current control period i.e. form FY 2022-23 to FY 2024-25 shall be as under:

(In INR Cr.)

Sr. No.	Scheme	Scheme Provision
1.	Original CIP for FY 2022-23 to FY 2024-25 approved vide order dated 27.04.2022	6679.73
2.	Additional CIP for FY 2022-23 to FY 2024-25 approved vide order dated 05.11.2022	278.16
3.	Additional CIP for FY 2022-23 to FY 2024-25 proposed in the present petition	259.25
	Total	**7217.14**

14. We order accordingly.

Sd/-
(Pramod Kumar Gupta)
Member

Sd/-
(Hemant Verma)
Chairperson