

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Petition No. 173/TT/2021 with IA No. 92/2023
and
Petition No. 242/TT/2021 with IA No. 91/2023**

(On remand)

Coram:

**Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member**

Date of Order: 19.07.2025

In the matter of:

(Petition No. 173/TT/2021)

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, and the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, for the determination of the transmission tariff from COD to 31.3.2024 for Asset-1: ± 800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) and Pugalur (HVDC Station), and for Asset-2: ± 800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) and Pugalur (HVDC Station), under "HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu) – North Trichur (Kerala) – Scheme 1: Raigarh - Pugalur 6000 MW HVDC System" in the Southern Regional Grid.

and

(Petition No. 242/TT/2021)

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, and the determination of transmission tariff for the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, concerning the asset: ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) and Pugalur (HVDC Station) under "HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu) – North Trichur (Kerala)-Scheme-1: Raigarh Pugalur 6000 MW HVDC System" in the Southern Regional Grid.



And in the matter of:

Power Grid Corporation of India Limited,
SAUDAMINI, Plot No-2,
Sector-29, Gurgaon-122001 (Haryana).

.... Petitioner

Versus

1. Tamil Nadu Generation and Distribution Corporation Limited,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600002.
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha, Near Axis Bank, Eluru Road,
Gunadala, Vijaywada – 520004.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam
Pattom, Thiruvananthapuram – 695004.
4. Tamil Nadu Electricity Board Limited,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600002.
5. Electricity Department,
Government of Goa, Vidyuti Bhawan,
Panaji, Goa – 403001.
6. Electricity Department,
Government of Pondicherry,
Pondicherry – 605001.
7. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Limited,
D. No.: 19-13-65/A, Srinivasapuram, Corporate Office,
Tiruchanoor Road, Tirupati – 517503,
Chittoor District, Andhra Pradesh.
9. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad – 500063 (Telangana).
10. Northern Power Distribution Company of Telangana Limited,
H. No. 2-5-3 1 / 2, Vidyut Bhawan, Corporate Office,
Nakkal Gutta, Hanamkonda,
Warangal – 506001.



11. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle,
Bangalore – 560001.
12. Gulbarga Electricity Supply Company Limited,
Station Main Road, Gulbarga, Karnataka.
13. Hubli Electricity Supply Company Limited,
Navanagar, PB Road,
Hubli, Karnataka.
14. MESCOM Corporate Office,
MESCOM Bhavan, MESCOM,
Kavoor Cross Road, Bejai, Mangalore – 575004.
15. Chamundeswari Electricity Supply Corporation Limited,
CESC Mysore, Corporate Office,
#29, Vijayanagara 2nd Stage,
Hinkal, Mysuru – 570017.
16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad – 500082.
17. Karnataka Power Transmission Corporation Limited,
Kaveri Bhawan, Bangalore – 560009.
18. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600002.
19. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur,
Jabalpur – 482008.
20. Maharashtra State Electricity Distribution Company Limited,
Hongkong Bank Building, 3rd Floor,
M.G. Road, Fort, Mumbai-400 001.
21. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara – 390007.
22. Electricity Department,
Administration of Daman & Diu,
Daman-396210.
23. DNH Power Distribution Corporation Limited,
Vidyut Bhawan, 66 kV Road,



Near Secretariat Amli, Silvassa – 396230.

24. Chhattisgarh State Power Distribution Company Limited,
P.O. Sunder Nagar, Dangania, Raipur,
Chhatisgaarh – 492013.
25. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Limited,
3/54, Press Complex, Agra-Bombay Road,
Indore – 452008.
26. Ajmer Vidyut Vitran Nigam Limited,
Corporate Office, Vidyut Bhawan,
Panchsheel Nagar,
Makarwali Road Ajmer – 305004.
27. Jaipur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302017.
28. Jodhpur Vidyut Vitran Nigam Limited,
New Power House, Industrial Area,
Jodhpur – 342003.
29. Himachal Pradesh State Electricity Board Limited,
Vidyut Bhawan, Kumar House Complex Building-II,
Shimla – 171004.
30. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226001.
31. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6
Panchkula – 134109.
32. Jammu Kashmir Power Corporation Limited,
220/66/33 kV Gladni,
Sub-station SLDC Building Narwal, Jammu.
33. Punjab State Power Corporation Limited,
The Mall, PSEB Head Office, Patiala-147001.
34. BSES Yamuna Power Limited,
B-Block, Shakti Kiran Bldg. (Near Karkadooma Court),
Karkadooma 2nd Floor, New Delhi – 110092.
35. BSES Rajdhani Power Limited,
BSES Bhawan,
Nehru Place, New Delhi.



36. Tata Power Delhi Distribution Limited,
33 kV Sub-station, Building Hudson Lane,
Kingsway Camp, North Delhi – 110009.
37. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road, Dehradun.
38. North Central Railway,
Allahabad.
39. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi – 110002.
40. Chandigarh Electricity Department,
UT-Chandigarh, Div-11,
Opposite, Transport Nagar,
Industrial Area Phase-I, Chandigarh.
41. Bihar State Power (Holding) Company Limited,
Vidyut Bhawan, Bailey Road,
Patna – 800001.
42. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar Block DJ,
Sector-II, Salt Lake City, Calcutta – 700091.
43. Grid Corporation of Orissa Limited,
Shahid Nagar, Bhubaneswar – 751007.
44. Damodar Valley Corporation,
DVC Tower, Maniktala Civic Centre,
VIP Road, Calcutta – 700054.
45. Power Department,
Government of Sikkim, Gangtok – 737101.
46. Jharkhand Bijli Vitran Nigam Limited,
Engineering Building, H.E.C.,
Dhurwa Ranchi – 834004.
47. Assam Electricity Grid Corporation Limited,
Bijulee Bhawan, Paltan Bazar,
Guwahati – 781001.
48. Meghalaya Energy Corporation Limited
Short Round Road, "Lumjingshai"
Shillong – 793001.



49. Government of Arunachal Pradesh,
Itanagar, Arunachal Pradesh.
 50. Power and Electricity Department,
Government of Mizoram,
Aizawl, Mizoram.
 51. Manipur State Power Distribution Corporation Limited,
Keishampat, Imphal.
 52. Department of Power,
Government of Nagaland,
Kohima, Nagaland.
 53. Tripura State Electricity Corporation Limited,
Vidyut Bhawan, North Banamalipur,
Agartala, Tripura (W) – 799001.
 54. Sembcorp Energy India Limited,
5th Floor, Tower C, Building No.8,
DLF Cybercity Gurugram, Haryana – 122002.
 55. GMR Kamalanga Energy Limited,
25/1, Skip House, Museum Road, Bangalore – 560025.
 56. MB POWER Limited,
Laharpur Jaithari Anuppur
Anuppur – 484330.
 57. DB Power Limited,
Office Block 1A, 5th Floor,
Corporate Block, DB City- Park, DB City,
Arera Hills Opp. MP Nagar, Zone -I Bhopal - 462016.
 58. Sembcorp Energy India Limited,
(Erstwhile Thermal Powertech Corporation India Limited)
6-3-1090, A-5, TSR Towers Rajbhavan Road,
Somajiguda Hyderabad – 500082.
 59. Sembcorp Gayatri Power Limited (SGPL),
6-3-1090, 5th Floor, A Block,
TSR Towers, Rajbhavan Road,
Somajiguda Hyderabad – 500082.
 60. ACB India Limited,
7th Floor, Corporate Tower,
Ambience Mall, N.H.- 8, Gurugram – 122002.
 61. GMR Warora Energy Limited,
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Naman Centre, 7th Floor, Opp. Dena Bank,
Plot No. C-31, G Block, Bandra Kurla Complex,
Bandra (East), Mumbai – 400051.

62. Jindal Power Limited,
Tamnar CT 496107,
District Raigarh, Chhattisgarh – 496107.
63. Spectrum Coal and Power Limited,
18, Vasant Enclave Rao Tula Ram Marg,
New Delhi – 110057.
64. Torrent Power Limited,
Samanvay, 600,
Tapovan, Ambavadi, Ahmedabad – 380015.
65. TRN Energy Private Limited,
18, Vasant Enclave, Rao Tula Ram Marg,
New Delhi, Delhi, India – 110057.
66. Dans Energy Private Limited,
B-I/E-24, Mohan Cooperative Industrial Area,
Mathura Road, New Delhi – 110044.
67. Shiga Energy Private Limited,
B-I/E-24, Mohan Cooperative Industrial Area,
Mathura Road New Delhi – 110044.
68. KSK Mahanadi Power Company Limited,
8-2-293/82/ A/431/ A, Road No. 22,
Jubilee Hills, Hyderabad – 500033.
69. Arcelor Mittal Nippon Steel India (Esser Steel) ,
27 km, Surat-Hazira Road,
Hazira, Surat – 394270.
70. Gati Infrastructure Limited,
Chuzachen HEP, Plot No. 20,
Survey No. 12 Kothaguda, Kondapur,
Hyderabad – 500084.
71. GMR Bajoli Holi Hydropower Private Limited,
GMR office, Village DEOL,
PO Holi Sub-Tehsil- Holi,
Tehsil Bharmour Chamba, Chamba (HP)– 176326.
72. APL Mundra,
Adani Corporate House, Shantigram,
Near Vaishnodevi Circle, S G Highway,
Ahmedabad – 382421 (Gujarat).



73. Power System Operation Corporation (POSOCO),
B-9 (1st Floor), Qutab Institutional Area,
Katwaria Sarai, New Delhi – 110016.
74. Central Electricity Authority (CEA),
Sewa Bhawan, R.K. Puram, Sector-I,
New Delhi – 110066.
75. Central Transmission Utility of India Limited (CTUIL),
Saudamini, Plot No. 02,
Sector 29 Gurugram – 122001.
76. Assam Power Distribution Company Limited,
4th Floor, Bijulee Bhawan,
Paltan Bazar, Guwahati, Assam – 781001.

...Respondent(s)

Parties Present : Shri Basava Prabu Patil, Senior Advocate, TANGEDCO
Shri S. Vallinayagam, Advocate, TANGEDCO
Shri Prabhas Bajaj, Advocate, KSEBL
Shri Priyanshu Tyagi, Advocate, KSEBL
Shri Harsh Chauhan, Advocate, KSEBL
Shri Rithvik Mathur, Advocate, KSEBL
Shri D. Abhinav Rao, Advocate, Telangana Discoms
Ms. Megha Shaw, Advocate, Telangana Discoms
Shri Sidhant Kumar, Advocate, AP Discoms
Ms. Eksha Kashyap, Advocate, AP Discoms
Ms. Anshika Saxena, Advocate, AP Discoms
Ms. Suparna Srivastava, Advocate, CTUIL
Ms. Aastha Jain, Advocate, CTUIL
Ms. Arshiya Sharma, Advocate, CTUIL
Ms. Swapna Seshadri, Advocate, PGCIL
Shri Utkarsh Singh, Advocate, PGCIL
Ms. Sneha, Advocate, PGCIL
Shri Mohd. Mohsin, PGCIL
Shri Zafrul Hasan, PGCIL
Shri Arjun Malhotra, PGCIL
Ms. Kirti, PGCIL
Shri M. Sethuraman, TANGEDCO

ORDER

(Petition No. 173/TT/2021)

The Petitioner, Power Grid Corporation of India Limited (PGCIL), a deemed transmission licensee, has filed the present Petition for the determination of



transmission tariff from the COD to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Asset-1: $\pm$ 800 kV 1500 MW Raigarh (Pole II) HVDC terminals, each at Raigarh (HVDC Station) and Pugalur (HVDC Station), and Asset-2: $\pm$ 800 kV 1500 MW (Pole-III) HVDC terminals, each at Raigarh (HVDC Station) and Pugalur (HVDC Station) (hereinafter referred to as “the transmission assets”) under “HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu)–North Trichur (Kerala)–Scheme 1: Raigarh-Pugalur 6000 MW HVDC System” in the Southern Regional Grid (hereinafter referred to as the “transmission scheme”).

2. The Petitioner has made the following prayers in Petition No. 173/TT/2021:

“1) Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred / projected to be incurred.

2) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para - 9.3 above.

3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2019 as per para 8 above for respective block.

4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70

a) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.

5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.

7) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned para 8.9 above.



8) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

10) Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges.

and pass such other relief as the Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.”

(Petition No. 242/TT/2021)

3. The Petitioner, PGCIL, has filed the present Petition for the determination of transmission tariff under the 2019 Tariff Regulations for the period from COD to 31.3.2024 in respect of an Asset: ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) and Pugalur (HVDC Station) (hereinafter referred to as “the transmission asset”) under “HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu)-North Trichur (Kerala)- Scheme 1: Raigarh-Pugalur 6000 MW HVDC System” (hereinafter referred to as the “transmission scheme”) in the Southern Regional Grid.

4. The Petitioner has made the following prayers in Petition No. 242/TT/2021:

“1) Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred / projected to be incurred.

2) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para –9.3 above.

3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2019 as per para 8 above for respective block.

4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.



5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.

7) Prayed to Condone the time overrun in completion of subject assets on merit of the same being out of the control of Petitioner in line with CERC Regulations'2019 22(2) (c) "uncontrollable factors" and approve the tariff as claimed.

8) Allow the petitioner to claim the overall security expenses and consequential IOWC on that security expenses separately.

9) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

10) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

11) Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges. and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."

Background

5. The Commission, vide orders dated 22.2.2023 and 16.2.2023 in Petition Nos. 173/TT/2021 and 242/TT/2021 respectively (hereinafter referred to as the "Commission's orders"), determined the tariff and allowed the sharing of the transmission charges for the following transmission asset(s) in the aforementioned Petitions for the 2019-24 period:

Sl. No.	Name of Asset	Actual COD	Covered under Petition No
Scheme-1: Raigarh-Pugalur 6000 MW HVDC System			
1	Asset-1: ± 800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station).	9.3.2021	173/TT/2021
2	Asset-2: ± 800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station).	13.7.2021	
3	Asset: ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	25.10.2021	242/TT/2021



6. Aggrieved with the Commission's orders dated 22.2.2023 and 16.2.2023 in Petition Nos. 173/TT/2021 and 242/TT/2021, the Respondent, Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), filed Appeal Nos. 775 of 2023 and 776 of 2023, respectively, before the Appellate Tribunal for Electricity (APTEL). The APTEL vide its order dated 3.10.2023 in Appeal Nos. 775/2023 and 776/2023 observed that the subject matter of these two Appeals was covered by its earlier order dated 18.7.2023 in Appeal No. 433 of 2022 (filed by TANGEDCO) and, as such, following the said order and in terms thereof, these Appeals were also disposed of. The relevant extract of the APTEL's order dated 3.10.2023 in Appeal Nos. 775 of 2023 and 776 of 2023 (hereinafter referred to as "the APTEL's order dated 3.10.2023") are as follows:

"It is not in dispute that the subject matter of these two appeals (Appeal No. 775/2023 and 776/2023) are covered by the order passed by this Tribunal in Appeal No. 433/2022 dated 18.7.2023. Following the said order, and in terms thereof, this appeal is also disposed of."

7. The Commission, vide its order dated 29.9.2022 in Petition No. 685/TT/2020 determined the tariff from COD to 31.3.2024 with respect to $\pm$ 800 kV 6000 MW Raigarh (HVDC Station)-Pugalur (HVDC Station) HVDC Link along with $\pm$ 800 kV 1500 MW (Pole-I) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station) under "HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu)-North Trichur (Kerala)- Scheme 1: Raigarh-Pugalur 6000 MW HVDC System" in the Southern Regional grid.

8. In Appeal No. 433 of 2022, TANGEDCO challenged the Commission's order dated 29.9.2022 in Petition No. 685/TT/2020 on many issues. One of the issues was that the Central Commission has the powers and jurisdiction to declare any



transmission asset as of national importance, and as such, 100% yearly transmission charges for the transmission asset covered in Petition No. 685/TT/2020 may be considered under the 'National Component'.

9. The APTEL, vide its order dated 18.7.2023 in IA No. 1985 of 2022 in Appeal No. 433 of 2023, set aside the Commission's order 29.9.2022 in Petition No. 685/TT/2020 and directed the Commission to pass a fresh order in the light of the observations made in the said order and in consultation with CEA, CTUIL, and the POSOCO/GCIL and in the light of the Ministry of Power's (MoP) letter dated 30.5.2022. The relevant extracts of the APTEL's aforesaid order dated 18.7.2023 are as under:

"4. The main issue, thus, raised before us is whether the Central Commission has the powers and jurisdiction to declare any transmission assets as of national importance and 100% yearly transmission charges may be considered under National Component, if the answer to this is affirmative, then the Central Commission has erred in stating that "Commission is not the appropriate forum for declaring any transmission assets to be of national and strategic importance", and the Central Commission ought to have considered the submissions made by the Respondents.

.....

16. It was brought on record by the CTU that the HVDC system has facilitated SR constituents in peak import of about 16020 MW power from NEW grid during peak load on 10.3.2022, out of the 16020 MW import, about 6000 MW has been imported through the HVDC system, additionally, SR has exported about 6968 MW to NEW grid during high RE season on 10.08.2022, out of the 6968 MW export, about 3000 MW has been exported through HVDC system in reverse power flow mode, additionally, the HVDC system has been utilised in reverse power flow mode on continuous basis during the peak RE season of Southern Region i.e. July, 2022 to October. 2022 wherein about 3000 MW has been exported to NEW grid.

17. Further, added that SR would become surplus in power during peak RE hours in future in view of the surplus scenario and optimistic RE capacity addition projections as part of Government of India's target of achieving 175 GW renewable power by 2022 and 500 GW renewable power by 2030, consequently, Raigarh-Pugalur HVDC transmission link will continued to be utilized for export of power outside SR (bi-directional), facilitating optimal utilization of existing inter-regional links and reducing the need for identification/implementation of additional inter-regional links for export of surplus power from SR, further, being utilized for import and export of power under various operating conditions, therefore may be considered as National Component under the 2020 Sharing Regulations.



18. It was informed that the consideration of the said HVDC link as National Component has been proposed by the CTU in its various representations, including communications dated 26.4.2022 and 29.4.2022 to the reference from the Government of India, Ministry of Power on the issue of declaration of HVDC transmission link as National Component.

19. Also informed that the Government of India, Ministry of Power vide its letter dated 30.5.2022 addressed to the Central Commission has stated that the Raigarh-Pugalur-Thrissur HVDC system is benefitting both WR and SR and therefore, it appears that there is a case for inclusion of the subject transmission system as National Component under the Sharing Regulations, 2020, despite this the Central Commission in the Impugned Order has disinclined to consider the transmission system under National Component with the rider that "...if need be to consider the sharing based on bi-directional flow of Raigarh-Pugalur-Thrissur HVDC system due to change in load generation mix, the same shall be dealt by the Commission at the appropriate stage.

20. We find is absolutely unjust and unreasonable on the part of the Central Commission of ignoring the recommendations of the CTU, SRLDC and SRPC in addition to the submissions made by the Southern Region constituents and even not consulting the CEA, the technical Apex Statutory Technical Organisation, further, passing the order without considering the advice of the Ministry of Power.

21. On the contrary, POWERGRID, the transmission licensee, argued that there is no infirmity in the Impugned Order, accordingly, the captioned Appeal deserved to be dismissed, additionally, it has commissioned the said HVDC link and therefore, required to be paid for the Assets it has set up, adding that tariff recovery is not akin to a claim for damages but goes towards servicing of the capital cost invested by POWERGRID in the construction of transmission assets, claiming that all the prudent costs and expenses incurred by POWERGRID along with a reasonable Return on Equity ('RoE') should be paid to it, further, submitted that there is no dispute on the tariff which has been decided by the Central Commission for the transmission assets set up by POWERGRID, none of the beneficiaries including TANGEDCO has questioned POWERGRID'S entitlement to its transmission tariff but only it is the manner of sharing the same.

22. We agree with the submissions of the POWERGRID to the extent that it is entitled to get the tariff it deserves to have but disagree that in case of erroneous determination, some beneficiaries can be penalized in the form of higher tariff.

28. We find it totally inconsistent approach adopted in the present case, its decision to defer the consideration of the instant HVDC link under the components of National Importance to a later stage based on change in load generation and bi-directional flow of power is unreasonable as the Dehgam-Mundra-Mohindergarh-Bhiwani link, till date, has operated with only unidirectional flow, as submitted by the Appellant and also that the ± 800 kV Biswanath Chariali-Agra HVDC link is under-utilized and the SR is not benefitted by either of the two.

29. Further, the Central Commission decided the issue after considering the comments of the CEA, POSOCO & CTU in earlies cases, however, passed the Impugned Order without considering these regulations in the instant case.

30. We appreciate the views of the CTU and in the light of the above mentioned Orders, Statement of Reasons to the Sharing Regulations, 2020 and the fact that Raigarh-Pugalur HVDC transmission link will also be utilized for export of power outside the Southern Region(bi-directional) (on account of surplus scenario and optimistic RE capacity addition projections), the HVDC transmission link is likely to be utilized for both



import and export of power under various operating conditions and may be considered as National Component under the Sharing Regulations,2020.

31. It cannot be disputed that Tamil Nadu and other Southern Regional States are RE rich States and the resources will be shared for the benefit of the entire country, it was also submitted by the Appellant that the loan for the instant asset was sought from the Asian Development Bank citing it as a Renewable Energy Corridor.

32. Therefore, the submissions of the Appellant under these circumstances find merit, for considering the Raigarh — Pugalur HVDC transmission system as assets of strategic and national importance in line with the other HVDC systems so that the charges are shared on all India basis.

33. We, therefore, find it appropriate to set aside the Impugned Order and direct the Central Commission to pass fresh order in the light of the observations recorded in the foregoing paragraphs and also duly consulting the statutory authorities i.e. CEA, CTU and POSOCO in the matter and also considering the aforementioned MoP's letter dated 30.05.2022."

10. Kerala State Electricity Board Limited (KSEBL) had also filed an Appeal before the APTEL being Appeal No. 566/2023 against the Commission's order dated 29.9.2022 in Petition No. 685/TT/2020 which was also disposed of by the APTEL vide order dated 31.7.2023 on the same terms as the order dated 18.7.2023 in Appeal No. 433/2022.

11. The Petitioner filed Civil Appeal No. 4959 of 2023 before the Hon'ble Supreme Court against the APTEL's order dated 18.7.2023 in Appeal No. 433 of 2022. The Hon'ble Supreme Court, vide order dated 18.8.2023, dismissed the Civil Appeal and directed the Commission to dispose of the proceedings on remand on or before 31.10.2023. The relevant portion of the Hon'ble Supreme Court order dated 18.8.2023 in Civil Appeal No. 4959 of 2023 is extracted hereunder:

- "1. We find no reason to entertain the appeal at this stage against the order of remand by the Appellate Tribunal for Electricity.*
- 2. The Central Electricity Regulatory Commission (CERC) shall dispose of the proceedings on remand on or before 31 October 2023.*
- 3. The Civil Appeal is accordingly dismissed.*
- 4. Pending applications, if any, stand disposed of."*



12. The Commission filed Civil Appeal No. 5883 of 2023 before the Hon'ble Supreme Court on a limited aspect of the APTEL's order dated 18.7.2023 in IA 1985 of 2022 in Appeal No. 433 of 2022. The Hon'ble Supreme Court, vide order dated 25.9.2023, dismissed the said Civil Appeal. The relevant portions of the Hon'ble Supreme Court order dated 25.9.2023 in Civil Appeal No. 5883 of 2023 are extracted hereunder:

1. *"We find no error in the order of the Appellate Tribunal for Electricity dated 18 July 2023 in Company Appeal No 433 of 2022.*
2. *The appeal is accordingly dismissed.*
3. *Pending application, if any, stands disposed of."*

13. As the issue involved pertains to recognising the transmission asset(s) as of national and strategic importance, and the transmission charges to be shared on an all-India basis, we deemed it necessary to implead the beneficiaries from all the regions as Respondents in the matter. Furthermore, APTEL directed the Commission to consider the comments of CTUIL, POSOCO, and CEA. Accordingly, the Petitioner was directed, vide Record of Proceedings dated 11.8.2023 in Petition No. 685/TT/2020, to implead the beneficiaries of all the regions as Respondents in this matter. In line with the directions in Petition No. 685/TT/2020, the Petitioner in the present Petitions has also impleaded 76 entities as Respondents at the stage of remand, which include the CEA, CTUIL and GCIL (POSOCO), in addition to the 24 beneficiaries of SR and WR in the original Petitions.

14. The Commission, in its order dated 30.10.2023 regarding Petition No. 685/TT/2020, has disposed of the remand matter. The Commission, in the same order dated 30.10.2023 in Petition No. 685/TT/2020 (remand matter), held as follows:



Sl. No	Issue for consideration	Decision of the Commission
1	Issue No.1: Whether regulatory approval for the instant asset was a mandatory requirement as per the 2010 Regulatory Approval Regulations and its treatment thereof?	➤ Regulatory approval is not applicable for the ISTS schemes where the beneficiaries have signed the BPTA to share the transmission charges as provided under Regulation 3(2) of the 2010 Regulatory Approval Regulations. ➤ The provisions of the TSA (Clauses 4.3.1 and 4.3.2 read with Clause 4.1.1) read with the minutes of the meeting of the Standing Committee, SRPC, and the COD letter dated 6.9.2020, we are of the considered view that the instant assets fall under Regulation 3(2) of the 2010 Regulatory Approval Regulations, and the regulatory approval was not a requirement for the said asset. ➤ We do not find any anomaly in the planning and execution of the subject transmission assets and accordingly hold that obtaining regulatory approval was not a requirement since all the beneficiaries have agreed to the subject System Strengthening Scheme before various fora and have also signed the BPTA and the TSA.
2	Issue No.2: How do the cases of Biswanath-Chariali/ Alipurdwār – Agra and Mundra-Mohindergarh HVDC compare with those of the instant transmission asset?	➤ After considering the submissions of All India DICs, the SoR provision, exploring the possibility of sourcing PSDF funds, and the declaration of national importance given to the BNC-Agra HVDC Transmission System by the Ministry of Power, it was decided that the sharing of transmission charges shall be done on an all-India basis. ➤ The instant transmission asset, which was created for the drawl of power by the Southern region, the BNC-Agra HVDC system was not created for the drawl of power by any particular region. The BNC-Agra HVDC system was considered an asset of national importance due to its peculiar circumstances, strategic reasons, and the evacuation of hydropower from the North Eastern Region and Sikkim. We are of the view that the grounds that the instant HVDC transmission system can carry power in both directions cannot be compared with the circumstances of and treatment given to the BNC-Agra line. In fact, consideration of an HVDC transmission asset as of national and strategic



		importance is not a precondition for the enhancement of transmission charges under the National Component. What is relevant in the context of the instant transmission asset is whether there is a case for increasing the percentage of transmission charges beyond 30% under the National Component.
3	Issue No.3: What should be the treatment of the sharing of transmission charges for the instant asset from its declared COD?	➤ The subject transmission asset was planned to import power from the WR to the SR to facilitate direct interconnection between pit head generating stations in Chhattisgarh and load centres in the SR. However, at a later stage, in view of the surplus scenario and optimistic RE capacity addition projections, it was proposed to use the said transmission system for the export of power and make it bi-directional. The maximum capacity of the subject transmission system in the forward direction (i.e., WR to SR) is 6000 MW, and the maximum capacity in the reverse direction (i.e., SR to WR) is 3000 MW ➤ The sharing of transmission charges for the period from 6.9.2020 till 31.10.2020 shall be as per Regulation 11(4) (3)(i) of the 2010 Sharing Regulations. ➤ During the period from 1.11.2020 till the third amendment of the 2020 Sharing Regulations comes into force, the transmission charges of the Raigarh-Pugalur HVDC shall be shared in terms of Regulation 5 and Regulation 6 of the 2020 Sharing Regulations. ➤ As per the third amendment, since the instant transmission system, Raigarh Pugalur HVDC has 50% reverse capacity, which has already been established as per the data submitted by GCIL, 50% of the transmission charges of the Raigarh Pugalur HVDC shall be shared under the National Component and the balance under the Regional component. In case the reverse capacity increases from 50% as certified by NLDC, the sharing of transmission charges corresponding to such reverse capacity shall be under the National Component in terms of the 2020 Sharing Regulations, including amendments thereof.
4	Issue No 4: What is the status of funding for the instant assets from PSDF/ NCEF?	➤ The Petitioner is to approach the PSDF Committee within a month of the issue of this order and make sincere efforts to avail of a sufficient grant from PSDF so that the tariff burden on the beneficiaries is reduced.



15. The Petitioner vide affidavit dated 9.4.2024 filed an amended Memo of Parties in Petition No. 173/TT/2021, while the same was filed in Petition No. 242/TT/2021 on 2.11.2023

16. Pursuant to the remand of the matter by the APTEL in Appeal Nos. 775 of 2023 and 776 of 2023 in Petition Nos. 173/TT/2021 and 242/TT/2021 vide order dated 3.10.2023, the following submissions were made by the parties:

Petition Nos. 173/TT/2021 and 242/TT/2021

17. TANGEDCO, Respondent No.1, has filed its reply vide separate affidavits dated 29.12.2023 in Petition Nos. 173/TT/2021 and 242/TT/2021; additional submissions vide separate affidavits dated 28.3.2034 and 25.7.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021 (TANGEDCO); Combined Written Submissions dated 13.9.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021(TANGEDCO).

18. Further, Kerala State Electricity Board Limited (KSEBL), Respondent No. 3, has filed its reply vide separate affidavits dated 29.12.2023 in Petition Nos. 173/TT/2021 and 242/TT/2021; Southern Power Distribution Company of Andhra Pradesh has filed its reply vide separate affidavits dated 10.3.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021, and GRIDCO Limited Respondent No. 43, has filed Combined Written Submissions in Petition Nos. 173/TT/2021 and 242/TT/2021 vide affidavit dated 19.2.2024.

19. In response, the Petitioner has filed its rejoinders to the replies vide affidavits dated 5.1.2024 (TANGEDCO in Petition Nos. 173/TT/2021 and 242/TT/2021); dated 5.1.2024 (KSEBL Petition Nos. 173/TT/2021 and 242/TT/2021); dated 2.4.2024 (Southern Power Distribution Company of Andhra Pradesh 'AP Discom' in



Petition Nos. 173/TT/2021 and 242/TT/2021); and dated 4.3.2024 (GRIDCO in IA No. 92 of 2023 in Petition No. 173/TT/2021).

20. In addition, the Petitioner has filed a reply to the additional submissions of TANGEDCO vide separate affidavits dated 2.4.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021; a short reply of the Petitioner dated 21.9.2024 to the KSEBL's additional submissions in Petition Nos. 173/TT/2021 and 242/TT/2021; the Petitioner's common additional affidavit dated 30.7.2024 in compliance with the RoP dated 23.7.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021); short submissions dated 6.8.2024 in compliance with RoP dated 16.7.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021, and Common Written Submissions dated 20.9.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021.

21. The Respondents have contended to declare the Raigarh-Pugalur HVDC transmission system as of strategic and national importance and the transmission charges of the said HVDC system to be shared on Pan-India basis, being a national importance project. The Respondents, TANGEDCO, have also raised the issue of time overrun and O&M Expenses in their replies.

22. In the course of hearing the matter, the Petitioner filed an Interlocutory Application No. 92/2023 in Petition No. 173/TT/2021 and Interlocutory Application No. 91/2023 in Petition No. 242/TT/2021 seeking directions of the Commission qua the Respondents not to make any unilateral deductions/adjustment till the final adjudication of the present Petitions and to maintain the status qua in terms of the order dated 29.9.2023 in IA No. 66/IA/2023 in Petition No. 685/TT/2020. During the hearing on 15.12.2023, the learned counsel for the Petitioner submitted that the Petitioner was not pursuing the aforementioned IAs and requested the Commission



to take up the matters that were on remand, namely, Petition Nos. 173/TT/2021 and 242/TT/2021.

23. In view of the submissions of learned counsel for the Petitioner, IA No. 92/2023 and IA No. 91/2023 are disposed of as they were not pressed.

24. The Petitioner has contended that TANGEDCO has not disputed/challenged the finding of the tariff order on the issue of prudence check on arriving at the capital cost, time overrun, and determination of tariff, which has been decided by the Commission in the tariff order. The challenge in the Appeal was limited to the sharing methodology and not the tariff determination of the transmission assets in the tariff order. The Petitioner has referred to Para 4 of the APTEL's order dated 18.7.2023 and contended that the issue was limited to the mechanism of sharing and not to other components of the tariff as determined for the transmission line/transmission system. The APTEL has set aside the Commission's order and directed the Commission to pass a fresh order in light of the observations made by the APTEL in the order dated 18.7.2023.

25. We have carefully perused the APTEL's order dated 18.7.2023. No contentions of the appellant regarding tariff determination have been noted in APTEL's order. Further, no observations were made by the APTEL with respect to a particular aspect of the tariff that needs fresh consideration. The only observation of the APTEL on tariff is in paragraph 22 of its order, which is also about higher tariffs to some beneficiaries, which is an aspect of the sharing of transmission charges. Further, as contended by the Petitioner, the APTEL has made particular observations only on the aspect of considering the transmission asset as an asset of national and strategic importance and including it in the National Component to share its transmission charges.



26. Accordingly, we are of the considered view that the instant remand is a “limited order remand” to the extent of considering the transmission asset(s) in the National Component and the Commission’s orders dated 22.2.2023 in Petition No.173/TT/2021, and dated 16.2.2023 in Petition No. 242/TT/2021 have not been set aside in entirety. However, we have impleaded the beneficiaries/ LTTCs of the other three regions, i.e., NR, ER, and NER, as Respondents in the matter of remand, as we felt that it was essential to have their views on considering the transmission asset(s) under National Component. These beneficiaries/ LTTCs/ Respondents did not have an opportunity to make their submissions in this matter earlier, as pointed out by KSEBL. Therefore, we felt it was just and fair to offer an opportunity to the newly impleaded Respondents at the remand stage to make their submissions in the matter. Further, we find it prudent to consider their submissions on tariff determination as well. Accordingly, we have also considered the submissions made by the contesting Respondents on tariff determination for the transmission asset(s) after the remand.

27. In view of our above discussions, the order consists of two parts:

Part-1: Tariff determination of the transmission asset(s)

Part-2: Other aspects as per the directions of APTEL and raised by Respondents during the course of hearing of the instant Petitions after remand.

28. Each part is dealt with in subsequent paragraphs.



Part-1: Tariff Determination of the Transmission Asset (s)

Brief Facts

Petition No. 173/TT/2021

29. The brief facts of the case are as follows:

- a) The Investment Approval (IA) for the transmission project (i.e. Scheme-1 of the transmission scheme) was accorded by the Board of Directors of the Petitioner's Company in its 328th meeting held on 5.5.2016 communicated vide Memorandum No. C/CP/IA/HVDC RP dated 9.5.2016 with an estimated cost of ₹1473337 lakh, including an IDC of ₹99528 lakh, based on the December 2015 price level.
- b) As per the said IA, the Scheduled Commercial Operation Date (SCOD) of the transmission assets is 42 months from the date of the IA, i.e. by 5.11.2016, against which the transmission assets, i.e., Assets 1 and 2, were declared under commercial operation (COD) on 19.3.2021 and 13.7.2021, respectively, with a time over-run of 490 days and 616 days, respectively.
- c) The Petitioner vide affidavit dated 8.11.2021 has submitted the status of the transmission assets/ transmission scheme covered under various tariff petitions, and the same are as follows:

Sl. No	Name of Asset	Schedule Commissioning as per IA	Actual COD	Covered under Petition No.
A	Scheme # 1: Raigarh-Pugalur 6000 MW HVDC System			
1	±800 kV 6000 MW Raigarh (HVDC Station) – Pugalur (HVDC Station) HVDC Link along with ±800 kV 1500 MW (Pole-I) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	6.9.2020	685/TT/2020



2	±800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	9.3.2021	173/TT/2021(instant Petition)
3	±800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	13.7.2021	
4	±800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	25.10.2021	
B	Scheme # 2:AC System Strengthening at Pugalur end			
1	a) 400 kV Pugalur (HVDC Station)-Pugalur (Existing) (Quad) D/C Transmission Line along with associated bays at Pugalur (HVDC Station) & Pugalur (Existing) Sub-station and b) 400 kV Pugalur (HVDC Station) – Arasur (Quad) D/C Transmission line along with associated bays at Pugalur (HVDC Station) & Arasur station	16.2.2020	6.9.2020	693/TT/2020
2	Pugalur HVDC Station – Edayarpalayam (TANTRANSCO) 400 kV (quad) D/C line along with associated bays at Pugalur HVDC station and Edayarpalayam (TANTRANSCO) Sub-station and 2 numbers 80 MVAR line reactors at Pugalur HVDC station and Edayarpalayam (TANTRANSCO) – Udumulpet 400 kV (quad) D/C line (Pugalur – Edayarpalayam line and Edayarpalayam – Udumalpet line are bypassed at Edayapalyam Sub-station to make Pugalur – Udumalpet line)	16.2.2020	13.7.2021	243/TT/2021
3	Pugalur HVDC Station– Thiruvalam 400 kV (quad) D/C line along with associated bays at Pugalur HVDC station and Thiruvalm Sub-station, and 2 numbers 63 MVAR line reactors at Thiruvalam Sub-station	16.2.2020	25.10.2021	
4	4 number of 400 kV line bays at Edayarpalayam (TN stn) for terminating Pugalur HVDC Station–Edayarpalayam 400 kV (quad) D/C line and Edayarpalayam–Udumulpet 400 kV (quad) D/C lines.	16.2.2021	Yet to be executed*	
	*Bay extension works at Edayarpalayam (TANTRANSCO) Sub-station is envisaged to be implemented by TANTRASCO on behalf of the Petitioner on deposit work basis.			
C	Scheme # 3: Pugalur- Trichur 2000 MW VSC Based HVDC System			
1	±320 kV VSC based 2000 MW Pugalur (HVDC)-North Trichur HVDC(Kerala) HVDC link along with ±320 kV 1000	9.4.2020	9.3.2021	172/TT/2021



	MW (Mono Pole-II) HVDC terminals each at Pugalur (HVDC Station) & North Trichur (HVDC Station, Kerala)			
2	±320 kV 1000 MW (Mono Pole-I) HVDC terminals each at Pugalur (HVDC Station) & North Trichur (HVDC Station, Kerala)	9.4.2020	8.6.2021	
3	LILO of North Trichur-Cochin 400 kV (Quad) D/C line at North Trichur HVDC station along with associated bays & equipment (GIS) at North Trichur HVDC station	9.4.2020	9.3.2021	
4	2 X 315 MVA 400/220/33 kV 3 Ph Auto Transformer along with its associated bays & equipment (GIS) at North Trichur HVDC station	9.4.2020	9.3.2021	
5	2 Numbers additional 220 kV line bays (GIS) at North Trichur HVDC for implementation of 220 kV feeder of Kerala	9.4.2020	9.3.2021	

Date of Commercial Operation

30. No submissions have been made by any of the Respondents on the aspect of the date of commercial operation. Therefore, we find no reason to differ from the earlier approved COD vide order dated 22.2.2023 in Petition No. 173/TT/2021. The Relevant extracts of the said order are reiterated herewith as follows:

“22. The Petitioner has submitted the RLDC charging certificates dated 5.3.2021 and 9.8.2021 certifying that trial operation was successfully completed on 24.2.2021 and 12.7.2021 for Asset-1 and Asset-2 respectively and CMD certificate as required under the Grid Code.

23. Taking into consideration the CEA energization certificate, RLDC charging certificate and CMD certificate, COD of Asset-1 and Asset-2 is approved as 9.3.2021 and 13.7.2021 respectively.”

Capital cost

31. The Petitioner vide affidavit dated 14.12.2021 has claimed the following capital cost incurred as on COD and Additional Capital Expenditure (ACE) projected to be incurred in respect of the transmission assets and has also submitted an Auditor's Certificate dated 18.11.2021 in support of the same:



(₹ in lakh)

Assets	FR approved cost	Capital cost up to COD	Projected ACE				Capital Cost as on 31.3.2024
			2020-21	2021-22	2022-23	2023-24	
Asset-1	128820.00	111929.99	573.94	8768.68	0.00	0.00	121272.61
Asset-2	230436.00	192777.38	0.00	10672.88	16753.05	0.00	220203.31

Cost over-run

32. No submissions have been made by any of the Respondents regarding the issue of cost overrun. Consequently, we see no reason to deviate from the previously approved capital cost as stated in the order dated 22.2.2023 in Petition No. 173/TT/2021. The relevant extract of the order is reiterated here as follows:

“31 The Petitioner has submitted the reasons of cost variation with respect to FR cost. As per auditor Certificate dated 18.11.2021 submitted vide affidavit dated 14.12.2021 there is an overall reduction of ₹17780.08 lakh and asset wise reduction of ₹7547.39 lakh and ₹10232.69 lakh in the estimated completion cost as compared to FR cost in respect of Asset-1 and Asset-2 respectively. It is observed that the cost variation in case of sub-station is due to the increase/decrease in the materials and sub-station equipment cost (including taxes and duties) due to quantity variation as per actual site condition encountered during execution and price variation as per actual contract prices received in open bidding. The price variation is beyond the control of the petitioner. The estimated completion cost of Asset-1 and Asset-2 is within FR cost and the same is allowed.”

Time overrun

33. As per the Investment Approval dated 5.5.2016, the transmission assets were scheduled to be put into commercial operation within 42 months, i.e., by 5.11.2019. However, there is a delay in the commissioning of the transmission assets, which is as follows:

Assets	SCOD	COD	Time over-run
Asset-1	5.11.2019	9.3.2021	490 days
Asset-2	5.11.2019	13.7.2021	616 days

34. Regarding the time overrun, TANGEDCO, in its reply submitted vide affidavit dated 29.12.2023, on remand, has stated that the time allocated for completing the project was duly considered, taking into account the limitations faced by the



Petitioner while commissioning the transmission assets. The Petitioner's inability to finish the project within the specified timeframe and their request for the delay to be condoned, citing RoW issues, litigation, legal matters, and so forth, are unfounded. The reasons put forth by the Petitioner fall under controllable factors as stipulated in Regulation 22 (1)(a) of the 2019 Tariff Regulations. Thus, the feeble explanations provided by the Petitioner are unjustifiable. TANGEDCO urged the Commission not to condone the delay and to deduct the IDC and IEDC corresponding to the delay period.

35. We have considered TANGEDCO's submissions. We note that TANGEDCO's submissions in the current Petition are similar to those previously filed before remand in this case. As stated above, we have already addressed the submissions of the Respondents in our order dated 22.2.2023 in Petition No.173/TT/2021.

36. Before remand of the matter in this case, the Petitioner claimed the time over-run upto 6.9.2020 due to several factors like delays in obtaining forest clearances in areas like Gadchiroli-Chandrapur, Bellampalli, Ramgiri, Vellore, and Dharampuri, a court case during the award of the HVDC terminal, Right of Way (RoW) issues, including law-and-order problems during the construction of transmission lines, general construction challenges, particularly in the Western and Southern Regions, and the COVID-19 pandemic. Further delays beyond 6.9.2020 were claimed by the Petitioner due to severe RoW problems during the commissioning of Scheme-2 (AC System Strengthening at Pugalur) and Scheme-3 (Pugalur-Trichur HVDC System), leading to the staggered commissioning of various assets. Accordingly, after a detailed analysis of the reasons for the time over-run in the case of the transmission



assets, we have condoned the time overrun of 490 days and 616 days for Assets-1 and 2, respectively, as detailed in earlier order dated 22.2.2023 in this Petition, terming them beyond the control of the Petitioner and cannot be held to be attributed to the Petitioner. The relevant extracts of the order dated 22.2.2023 in Petition No. 173/TT/2021 are as follows:

“44. We have considered the submissions of the Petitioner and MPPMCL, KSEB, TANGEDCO and TSSPDCL and TSNPDCL and have gone through the documentary evidences produced on record regarding the time over-run. The transmission assets were scheduled to be put into commercial operation within 42 months from the date of IA dated 5.5.2016. Accordingly, SCOD works out to 5.11.2019. However, Asset-1 and Asset-2 were put into commercial operation on 9.3.2021 and 13.7.2021 respectively. Therefore, there is a time over-run of 490 days and 616 days in execution of Asset-1 and Asset-2 respectively. The Petitioner has submitted that the time over-run may be analyzed in two parts (i) delay up to 6.9.2020 of about 306 days in execution of Raigarh-Pugalur HVDC transmission link and Pole-I and (ii) delay beyond 6.9.2020 of about 184 days and 310 days in putting into commercial operation of Asset-1 and Asset-2 due to execution of Scheme-3 i.e. Pugalur-Trichur 2000 MW VSC based HVDC System and delay in execution of AC system covered in Scheme-2 respectively.

45. It is observed that the 1st element of the subject HVDC Scheme i.e. Raigarh-Pugalur HVDC transmission link and Pole-I together with matching AC system namely 400 kV D/C Pugalur (HVDC)-Pugalur (existing) and Pugalur (HVDC)-Arasur transmission lines were put under commercial operation w.e.f. 6.9.2020 and claimed under Petition No. 685/TT/2020 (Pole-1 of HVDC system) and Petition No. 693/TT/2020 (AC system). The Petitioner has submitted that the time over-run up to 6.9.2020 was mainly due to delay in grant of forest clearance in Gadchiroli-Chandrapur, Bellampalli, Ramgiri, Vellore and Dharampuri for HVDC transmission line, court cases during award of HVDC terminal, RoW issues vis-à-vis law-and-order problems during the construction of transmission lines, litigations and Covid 19 Pandemic. The Petitioner has submitted that after managing intense statutory clearances, difficult terrain conditions, court cases throughout the stretch of the transmission line, RoW problems and other construction challenges in the WR and SR, the Petitioner has finally squeezed the prolonged delay and put the transmission assets i.e. main HVDC line and Pole-I into commercial operation on 6.9.2020. The Commission vide order dated 29.9.2022 in Petition No. 685/TT/2020 condoned the time over-run with respect to Pole-I of HVDC system along with HVDC line. The relevant portion of the order dated 29.9.2022 is as follows:

“54. As stated above, the transmission assets was scheduled to be put into commercial operation on 5.11.2019 and it was put into commercial operation on 6.9.2020. Thus, there is a time over-run of 306 days. It is evident from the above discussion that the implementation of the transmission assets was affected by various court cases initially at the time of issue of NOA and latter while construction of the transmission line. Apart from this, there was delay in grant of forest clearance. It is observed that the first Court case was filed by one of the bidders before the Delhi Court High Court on 13.5.2016 that was disposed on 6.1.2017. Further, numerous Court cases were filed by the land



owners seeking more compensation before various forums starting from 16.6.2017 and the Petitioner could resolve them only by 30.1.2020. Besides this, as stated above there was considerable delay in grant of forest clearance and the last Stage-I clearance was granted on 24.9.2019. However, the time taken for grant of forest clearance is subsumed by the time taken for resolving the RoW issues. Thus, the Petitioner faced serious issues from 13.5.2016 to 30.1.2020, i.e. more than three years and thereafter the Petitioner could complete the stringing finally on 16.3.2020. We are of the view that the issues faced by the Petitioner from 13.5.2016 to 24.9.2019, as enumerated above, are beyond the control of the Petitioner and accordingly the time over-run from 6.11.2019 upto 16.3.2020 (completion of stringing), i.e. 133 days is condoned.

XXXXXX

57. Taking into consideration the OM dated 13.5.2020 on force majeure and the fact that Government unlocked the Covid-19 restrictions on 31.8.2020 and thereafter the Petitioner declared COD of the transmission assets on 6.9.2020. In view of the facts and circumstances of the case, we condone the time over-run of 173 days from 17.3.2020 to 5.9.2020 on account of Covid-19 pandemic as the same falls under Regulation 22(2) of the 2019 Tariff Regulations and is beyond the control of the Petitioner. Accordingly, we condone the total time over-run of 306 days in case of the instant transmission assets.”

46. The time over-run up to 6.9.2020 has already been condoned in order dated 29.9.2022 in Petition No. 685/TT/2020. The Petitioner in the instant petition has submitted the same set of justification and documents that were placed before the Commission in Petition No. 685/TT/2020 in support is its claim for condonation of time over-run in case of Asset-1 and Asset-2. The transmission assets i.e. Asset-1 (Pole-II) and Asset-2 (Pole-III) are integral part of the subject HVDC System. Hence, technically Asset-1 and Asset-2 could not have been executed prior to 6.9.2020, i.e. before the COD of Raigarh-Pugalur HVDC line and Pole-I covered under Petition No. 685/TT/2020. Therefore, the decision in the above order dated 29.9.2022 in respect of Raigarh-Pugalur HVDC line and Pole-I covered in Petition No. 685/TT/2020 regarding condonation of time over-run up to 6.9.2020 is applicable for the instant transmission assets also. Accordingly, the time over-run of 306 days (up to 6.9.2020) in respect of Asset-1 and Asset-2 is condoned.

47. As regards the time over-run beyond 6.9.2020, the Petitioner has submitted that it was decided in the Joint Standing Committee meeting of SR and WR constituents held on 20.4.2015, that the subject HVDC transmission system shall be implemented in three schemes i.e. Scheme-1: Raigarh-Pugalur 6000 MW HVDC System, Scheme-2: AC System strengthening at Pugalur end and Scheme-3: Pugalur-Trichur 2000 MW VSC Based HVDC System. It was also decided that Scheme-2 and Scheme-3 should be in place before execution of Scheme-1. Further, the execution of Scheme-3 i.e. Pugalur-Trichur 2000 MW VSC Based HVDC link was delayed due to severe RoW problem in the stretches falling in Tamil Nadu and Kerala. Accordingly, on 30.12.2020 the meeting has been convened by CEA/Constituents to discuss the issue of part execution of Raigarh-Pugalur-Trichur HVDC transmission system. After discussion, it was agreed that the Pole-II (Asset-1, herein) shall be executed along with Scheme-3 consisting of Pugalur-Trichur 1000 MW VSC based HVDC System together with LILO of North-Trichur–Cochin 400 kV D/C line and 220 kV lines from North Trichur Sub-station. Therefore, the Petitioner was compelled to delay the execution of Pole-II in order to match with completion of assets of Scheme-3 as above. Accordingly, Asset-1 i.e. Pole-II was put into



commercial operation w.e.f. 9.3.2021 together with Pugalur-North Trichur HVDC link along with Mono Pole-II and associated AC system i.e. LILO of 400 kV D/C North Trichur line, 2x315 MVA 400/220 kV ICTs and 2 numbers 220 kV line bays at North Trichur (HVDC). The relevant extracts of the minutes of meeting held on 30.12.2020 for part execution of Raigarh-Pugalur-Trichur HVDC transmission system is as follows:

“20. After further discussions, following was concluded:

- Part commissioning of Scheme-1 (Phase II: 1500 MW of Bipole-I) of Raigarh -Pugalur HVDC Transmission system and part commissioning of Scheme-3: Pugalur- Trichur 1000 MW VSC Based HVDC System would be possible after commissioning of North-Trichur –Kozikode 400 kV D/C line and 220 kV lines from North Trichur S/S.*
- Pugalur- Trichur 1000 MW VSC based HVDC System would be commissioned under controlled loading condition by POSOCO with North-Trichur –Kozikode 400 kV line and North Trichur- Mallaparamba 220 kV line. After commissioning of 220 kV line from North Trichur to Nallalam, Pugalur-Trichur VSC HVDC system can be loaded upto 1000 MW.*
- In case of outage of Pugalur-North Trichur VSC HVDC system, power flow on Raigarh – Pugalur HVDC system would be controlled to avoid overloading of downstream network in Tamil Nadu system.*
- After charging of Pugalur-North Trichur VSC HVDC system, KSEB should restrict the loading at Kochi/Cochin ICT's within limits by redistributing load at other substations.*
- Bypassing of one ckt. of Neyveli TS-II- Salem 400 kV D/C line of PGCIL and Neyveli TS-II –NNTPS 400 kV S/C line of PGCIL at Neyveli TS-II, to form NNTPS- Salem 400 kV S/c line (agreed in 42nd SCPSPSR) needs to be expedited.”*

48. As per the above approval of CEA, the Petitioner has executed Asset-1 i.e. Pole-II and put the same into commercial operation w.e.f. 9.3.2021 together with part Scheme-3 consisting of Pugalur-North Trichur HVDC link along with Mono Pole-II and associated AC system i.e. LILO of 400 kV D/C North Trichur line 2x315 MVA 400/220 kV ICTs and 2 numbers 220 kV line bays at North Trichur (HVDC). It is observed that all the assets of Scheme-3 having COD of 9.3.2021 are covered in order dated 27.1.2023 in Petition No. 172/TT/2021. The issue of time over-run of assets of Scheme-3 consisting of +320 kV 2000 MW Pugalur (HVDC)- North Trichur HVDC link along with Mono Pole-II (1000 MW) and associated AC system i.e. LILO of 400 kV D/C North Trichur line, 2x315 MVA 400/220 kV ICTs and 2 numbers 220 kV line bays at North Trichur (HVDC) have been dealt in Petition No. 172/TT/2021 and was condoned by the Commission vide order dated 27.1.2023 in Petition No. 172/TT/2021. The relevant portion of the order dated 27.1.2023 is as follows:

“41. It is observed from the chronology of scheduled versus actual project activities, that the Petitioner has placed LOA and commenced the foundation works as per schedule. However, the Petitioner encountered RoW issues between 11.12.2017 to 25.7.2020 of about 957 days at Location No. 32/2,34/0,38/1, 49/0,73/0,74/0,75/0 of the transmission line in the State of Tamil Nadu covering about 13 districts thus affecting the execution of transmission line. This delay of 957 days was caused by RoW issues and thus was beyond the control of the Petitioner. Moreover, RoW issue was resolved on 25.7.2020 which is about 160 days beyond SCOD. This additional time of 957 days due to RoW issues had a cascading effect on the execution of line. However, the Petitioner compressed the execution time due to which the overall time over-run has been reduced to 334 days and 425 days in execution



of Asset-1, 3, 4 & 5 and Asset-2, respectively. We are of the view that the time over-run of 334 days and 425 days was due to hindrance caused by RoW issues and it was beyond the control of the Petitioner and accordingly is condoned.”

49. In view of above decision of the Commission, the delay up to 9.3.2021 has already been condoned in order dated 27.1.2023 in Petition No. 172/TT/2021 due to RoW problems. The Commission has perused the time over-run up to 9.3.2021 and after detailed analysis condoned the time over-run up to 9.3.2021 in respect of +320 kV 2000 MW Pugalur (HVDC)- North Trichur HVDC link along with Mono Pole-II (1000 MW) and associated AC system i.e. LILO of 400 kV D/C North Trichur line, 2x315 MVA 400/220 kV ICTs and 2 numbers 220 kV line bays at North Trichur (HVDC). Therefore, the time over-run from 6.9.2020 to 9.3.2021 of about 184 days was beyond the control of Petitioner so far as Asset-1 is concerned. We have already condoned the delay of 306 days from SCOD to 6.9.2020 in execution of Asset-1 in the above paragraph of this order. Accordingly, the total time over-run of 490 days (306+184) in respect of the Asset-1 is condoned.

50. As regards to Asset-2 (Pole-III), the Petitioner has submitted that another meeting of CEA/ Constituents was held on 5.7.2021 to discuss the issue of mismatch arising due to further delay in execution of AC system covered in Scheme-2. It was decided that Pole-I (1500 MW) of Bi-pole-II (3000 MW) i.e., Pole-III (Asset-II, herein) would be executed only after execution of Pugalur (HVDC)-Edayarpalayam-Udumalpet 400 kV D/C transmission lines. It was also informed during the above meeting dated 5.7.2021 that Pugalur (HVDC)-Edayarpalayam and Edayarpalayam-Udumalpet transmission lines were ready for execution but Edayarpalayam Sub-station was still under implementation by TANTRANSCO. Therefore, it was decided that Pugalur (HVDC)-Edayarpalayam and Edayarpalayam-Udumalpet lines would be by-passed at Edayarpalayam to form Pugalur (HVDC)-Udumalpet 400 kV (quad) D/C line as an interim arrangement. Accordingly, Asset-2 i.e. Pole-III was executed and put into commercial operation w.e.f. 13.7.2021 together with Pugalur (HVDC)-Edayarpalayam-Udumalpet 400 kV D/C transmission line as interim arrangement.

51. With regard to Asset-2 (Pole-III), it is observed from CEA charging certificate that Pole-III was ready for charging on 2.12.2020. However, as decided in the CEA meeting dated 5.7.2021, Asset-2 i.e. Pole-III was executed and put into commercial operation w.e.f. 13.7.2021 together with 400 kV D/C Pugalur (HVDC)-Edayarpalayam transmission line and 400 kV D/C Edayarpalayam-Udumalpet transmission line covered under Scheme-2. The Petitioner has submitted that 400 kV D/C Pugalur (HVDC)-Edayarpalayam transmission line and 400 kV D/C Edayarpalayam-Udumalpet transmission line was delayed due to RoW issues, forest clearance, Covid-19 pandemic situations which were beyond the control of the Petitioner. The Petitioner has further submitted that Edayarpalayam Sub-station being executed by TANTRANSCO for terminating Pugalur (HVDC)-Edayarpalayam and Edayarpalayam-Udumalpet transmission lines was getting delayed due to which it was decided in meeting dated 5.7.2021 to bypass the Edayarpalayam Sub-station and directly connect both the above line to make it 400 kV D/C Pugalur (HVDC)-Udumalpet line under interim arrangement. The relevant extracts of the minutes of the meeting held on 5.7.2021 for part execution of Raigarh-Pugalur-Trichur HVDC Transmission System is as follows:

“18. After deliberations, following was agreed:



i. As trial operation of Monopole-I (1000 MW) of Pugalur – North Trichur VSC based HVDC system has already been completed, therefore the same may be commissioned.

ii. Following transmission elements may be commissioned on completion.

- Pole-I (1500 MW) of Bipole-II (3000 MW) of Raigarh-Pugalur HVDC system.
- Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line
- Edayarpalayam – Udumalpet 400 kV (quad) D/c line

Pole-I (1500 MW) of Bipole-II (3000 MW) would be commissioned only after commissioning of Pugalur (HVDC) – Edayarpalayam– Udumalpet 400 kV (quad) D/c line. As Edayarpalayam S/s is still under construction, the Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line and Edayarpalayam – Udumalpet 400 kV (quad) D/c line would be by-passed at Edayarpalayam to form Pugalur (HVDC)-Udumalpet 400 kV (quad) D/c line as an interim arrangement.

iii. POWERGRID to expedite the commissioning of Pugalur (HVDC) – Thiruvallur 400 kV D/c (quad) line.”

52. It is observed that the Petitioner has claimed tariff for 400 kV D/C Pugalur (HVDC)-Edayarpalayam and Edayarpalayam-Udumalpet transmission lines in Petition No. 243/TT/2021. The Commission vide order dated 24.11.2022 in Petition No. 243/TT/2021 has already dealt with the issue of time over-run, wherein it was held as follows:

“39. It is observed from the chronology of scheduled versus actual project activities, that the Petitioner has placed LoA for survey work in advance and carried out preparatory activities prior to the IA. However, the Petitioner encountered RoW issues between 21.2.2019 to 19.4.2021 of about 788 days in Pugalur-Edayarpalayam line and between 27.8.2019 to 16.3.2021 of about 567 days in Pugalur-Edayarpalayam line at various locations of the transmission lines in the State of Tamil Nadu covering about 13 districts, thus affecting the execution of 400 kV D/C Pugalur (HVDC)-Edayarpalayam (TANTRANSCO) and 400 kV D/C Edayarpalayam (TANTRANSCO)-Udumalpet transmission lines. This delay of 788 days and 567 days in completion of Pugalur Edayarpalayam and Pugalur-Edayarpalayam lines, respectively was caused by RoW issues and court cases and thus was beyond the control of the Petitioner. Moreover, RoW issue was resolved on 19.4.2021 and 16.3.2021 in the Pugalur-Edayarpalayam and Pugalur-Edayarpalayam lines respectively, which is about 428 days and 394 days, respectively beyond the SCOD. It is stated that Pugalur-Edayarpalayam and Pugalur-Edayarpalayam lines were required to be executed simultaneously to Edayarpalayam Sub-station, since, 4 numbers of 400 kV line bays at Edayarpalayam (Tamil Nadu Station) for terminating Pugalur HVDC Station–Edayarpalayam and Edayarpalayam– Udumalpet 400 kV (quad) D/C lines is yet to be executed. Accordingly, it was decided to directly connect Pugalur-Edayarpalayam and Pugalur-Edayarpalayam lines by way of by-passing Edayarpalayam (Tamil Nadu Sub-station). Therefore, immediately after the RoW issues were resolved on 19.4.2021 and 16.3.2021 in both the above lines, the Petitioner completed the remaining activities and both the lines were declared under commercial operation on 13.7.2021. This additional time of 788 days and 567 days due to RoW issues and court cases had a cascading effect on the execution of Pugalur-Edayarpalayam and Pugalur-Edayarpalayam lines respectively. Due to efforts made by the Petitioner, the overall delay was



reduced to 513 days. Thus, the Petitioner faced serious issues during the construction of the above transmission lines. Considering the reasons enumerated above, we are of the view that hindrance caused due to RoW issues and court cases were beyond the control of the Petitioner and accordingly the time over-run of 513 days in case of Asset-1 is condoned."

53. *The time over-run up to 13.7.2021 has already been condoned in order dated 24.11.2022 in Petition No. 243/TT/2021. Therefore, we are of the view that the time over-run from 6.9.2020 to 13.7.2021 of about 310 days was beyond the control of Petitioner as far as Asset-2 (Pole-III) is concerned. We have already condoned the time over-run of 306 days from SCOD to 6.9.2020 in execution of Asset-2 above. Accordingly, the total time over-run of 616 days (306+310) in respect of the Asset-2 is also condoned.*

54. *In view of the above, the time over-run of 490 days and 616 days in respect of Asset-1 and Asset-2 respectively under Scheme-1 deserves to be condoned and, hence, condoned.:*

37. We have already considered the reasons submitted by the Petitioner for the time overrun and the objections raised by the Respondents while issuing the order dated 22.2.2023 in Petition No. 173/TT/2021. We have condoned the time overrun of 490 days and 616 days in the cases of Assets-1 and 2, respectively. We find no reason to differ from our earlier findings.

O&M Expenses

38. TANGEDCO, in its reply filed vide affidavit dated 29.12.2023 on remand, has submitted that the Petitioner has claimed exorbitant O&M Expenses for the HVDC terminal of the ± 800 kV Raigarh - Pugalur HVDC bipole scheme of 6000 MW capacity, which amounts to double the rate of the ± 800 kV Bishwanath-Agra HVDC bipole scheme (3000 MW). The calculation is erroneous and unacceptable. TANGEDCO has further stated that the normative rate of O&M Expenses for a similar bipole scheme of ± 800 kV HVDC of 6000 MW capacity is not available in the regulations. Therefore, the Commission is requested to disallow the imprudent claim of the Petitioner and to establish new norms for O&M expenses for the new HVDC ± 800 kV Raigarh - Pugalur HVDC bipole scheme of 6000 MW capacity.



39. We have considered the submissions of TANGEDCO and have perused the record. It is observed that similar submissions were made by TANGEDCO in the instant Petition prior to remand in this case.

40. In the order dated 22.2.2023 in Petition No. 173/TT2021, the O&M Expenses of the instant HVDC ± 800 kV Raigarh-Pugalur HVDC bipole transmission line were allowed considering the pro-rata of O&M norms of ± 800 kV Bishwanath-Agra HVDC Bi-pole scheme (₹lakh) (3000 MW). The relevant portions of the order dated 22.2.2023 in Petition No. 173/TT/2021 are extracted hereunder:

“79.....

.....
TANGEDCO, TSSPDCL and TNSPDCL has made the similar submissions regarding O&M Expenses and has also submitted that the normative rate of O&M Expenses for a similar Bi-pole scheme of ± 800 kV HVDC bi-pole of 6000 MW capacity is not available in the regulation and has requested to disallow the claim of the Petitioner and to determine the O&M Expenses for the new HVDC ± 800 kV Raigarh-Pugalur HVDC Bi-pole scheme of 6000 MW capacity.

80. *In response to the reply of MPPMCL, KSEB, BESCOM, TANGEDCO, TSSPDCL and TNSPDCL, the Petitioner has submitted that the O&M Expenses for 800 kV HVDC terminal has been calculated as per proviso (i) and (ii) of the Regulation 35(3)(a) of the 2019 Tariff Regulations. The relevant regulation is extracted as follows:*

“(i) the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;

(ii) the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;

81. *The Petitioner has further submitted that accordingly, O&M Expenses for HVDC Terminal has been calculated considering the pro-rata of O&M Expenses allowed for similar HVDC i.e. ± 800 kV Bishwanath-Agra HVDC Bi-pole scheme (₹ lakh) (3000 MW) and has prayed to allow the O&M Expenses as claimed. Accordingly, O&M Expenses for HVDC Terminal has been calculated considering the pro-rata of O&M Expenses allowed for similar HVDC i.e. ± 800 kV Bishwanath-Agra HVDC Bi-pole scheme (₹ lakh) (3000 MW).*

82. *We have considered the submission of the Petitioner, MPPMCL, KSEB, BESCOM, TANGEDCO, TSSPDCL and TNSPDCL. As per proviso (i) of the Regulation 35(3) of the 2019 Tariff Regulations, O&M Expenses for new HVDC Bi-*



pole schemes which was put into commercial operation after 1.4.2019 for a particular year shall be allowed on pro-rata on the basis of normative rate of O&M Expenses of similar HVDC Bi-pole scheme for the corresponding year of the tariff period. The ± 800 kV Bishwanath-Agra HVDC Bi-pole scheme (₹ lakh) (3000 MW) is similar to the transmission assets. Accordingly, O&M Expenses for the instant HVDC Asset i.e. ± 800 kV HVDC bi-pole Raigarh-Puglur transmission line has been calculated considering the pro-rata of O&M norms of ± 800 kV Bishwanath-Agra HVDC Bi-pole scheme (₹ lakh) (3000 MW)."

41. We have already considered the submissions of the Petitioner and Respondents with regard to O&M Expenses in our order dated 22.2.2023 in Petition No. 173/TT/2021 as per Regulation 35(3) (i) of the 2019 Tariff Regulations. Therefore, we find no reason to differ from our earlier findings.

Annual Fixed Charges for the 2019-24 Tariff Period

42. In the light of the above discussions, we are of the view that no new submissions have been made by any of the Respondents in the remand proceedings. In our opinion, no case has been made out by the Respondents to differ from the transmission charges earlier allowed vide order dated 22.2.2023 in the instant Petition with regard to the transmission assets for the 2019-24 tariff period. Accordingly, the transmission charges in respect of the transmission assets for the 2019-24 period are as follows:

Asset-1

(₹ in lakh)

Particulars	2020-21 (Pro-rata 23 days)	2021-22	2022-23	2023-24
Annual Transmission Charges				
Depreciation	354.97	5890.27	6132.75	6132.75
Interest on Loan	149.69	2406.77	2347.74	2179.44
Return on Equity	395.37	6560.66	6830.73	6830.73
O&M Expenses	83.59	1373.00	1421.00	1471.00
Interest on Working Capital	16.06	246.94	254.71	253.80
Total	999.68	16477.64	16986.93	16867.71



Asset-2

(₹ in lakh)

Particulars	2021-22 (Pro-rata 262 days)	2022-23	2023-24
Annual Transmission Charges			
Depreciation	7176.36	10705.39	11128.90
Interest on Loan	2818.37	3990.77	3885.52
Return on Equity	7999.04	11932.63	12404.69
O&M Expenses	985.55	1421.00	1471.00
Interest on Working Capital	273.38	403.14	414.36
Total	19252.70	28452.93	29304.46

43. There are no fresh submissions regarding filing fees, licence fees, RLDC fees and charges, GST, capital spares, etc. We are, therefore, of the view that the Commission's order dated 22.2.2023 in Petition No. 173/TT/2021 regarding filing fees, licence fees, RLDC fees and charges, GST, capital spares, etc., shall remain as it is and do not warrant modifications.

Petition No. 242/TT/2023

44. The brief facts of the case are as follows:

a) The Investment Approval (IA) for the transmission scheme (i.e., Scheme-1 of the transmission scheme) was accorded by the Board of Directors of the Petitioner's Company in its 328th meeting held on 5.5.2016 vide Memorandum No. C/CP/IA/HVDC RP dated 9.5.2016 with an estimated cost of ₹1473337 lakh, including an IDC of ₹99528 lakh, based on the December 2015 price level.

b) As per Investment Approval (IA) dated 5.5.2016, the Scheduled Commercial Operation Date (SCOD) of the transmission assets is 42 months from the date of IA i.e. by 5.11.2019, against which the transmission asset has been declared under commercial operation (COD) on 25.10.2021 with a time overrun of 720 days.

c) The Petitioner, vide affidavit dated 6.12.2021, has submitted the status of transmission asset/transmission scheme covered under various petitions as follows:



Sl. No	Name of Assets	Schedule COD as per IA	Actual COD	Covered under Petition No.
A	Scheme-1: Raigarh-Pugalur 6000 MW HVDC System			
1	±800 kV 6000 MW Raigarh (HVDC Station) – Pugalur (HVDC Station) HVDC Link along with ±800 kV 1500 MW (Pole-I) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	6.9.2020	685/TT/2020
2	±800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	9.3.2021	173/TT/2021
3	±800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	13.7.2021	
4	±800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	25.10.2021	242/TT/2021 (Instant Petition)
B	Scheme-2: AC System Strengthening at Pugalur-end			
1	a) 400 kV Pugalur (HVDC Station) - Pugalur (Existing) (Quad) D/C Transmission line along with associated bays at Pugalur (HVDC Station) & Pugalur (Existing) Sub-station and b) 400 kV Pugalur (HVDC Station) – Arasur (Quad) D/C Transmission line along with associated bays at Pugalur (HVDC Station) & Arasur station	16.2.2020	6.9.2020	693/TT/2020
2	Pugalur HVDC Station – Edayarpalyam (TANTRANSCO) 400 kV (quad) D/C line along with associated bays at Pugalur HVDC station and Edayarpalyam (TANTRANSCO) Sub-station and 2 numbers 80 MVAR line reactors at Pugalur HVDC station and Edayarpalyam (TANTRANSCO) – Udumulpet 400 kV (quad) D/C line (Pugalur – Edayarpalyam line and Edayarpalyam – Udumalpet line are bypassed at Edayarpalyam Sub-station to make Pugalur – Udumalpet line)	16.2.2020	13.7.2021	243/TT/2021
3	Pugalur HVDC Station – Thiruvalam 400 kV (quad) D/c line along with associated bays at Pugalur HVDC station and Thiruvalam Sub-station and 2 numbers 63 MVAR line reactors at Thiruvalam Sub-station	16.2.2020	25.10.2021	
4	4 numbers of 400 kV line bays at Edayarpalayam (TN Sub-station) for terminating Pugalur HVDC Station– Edayarpalayam 400 kV (quad) D/C line	16.2.2021	Yet to be commissioned*	



Sl. No	Name of Assets	Schedule COD as per IA	Actual COD	Covered under Petition No.
	and Edayarpalayam–Udumulpet 400 kV (quad) D/C lines.			
	<i>*Bay extension works at Edayarpalayam (TANTRANSCO) Sub-station are envisaged to be implemented by TANTRANSCO on behalf of POWERGRID on a deposit work basis.</i>			
C	Scheme-3: Pugalur- Trichur 2000 MW VSC-Based HVDC System			
1	±320 kV VSC-based 2000 MW Pugalur (HVDC) - North Trichur HVDC (Kerala) HVDC link along with ±320 kV 1000 MW (Mono Pole-II) HVDC terminals each at Pugalur (HVDC Station) & North Trichur (HVDC Station, Kerala)	9.4.2020	9.3.2021	172/TT/2021
2	±320 kV 1000 MW (Mono Pole-I) HVDC terminals each at Pugalur (HVDC Station) & North Trichur (HVDC Station, Kerala)	9.4.2020	8.6.2021	
3	LILO of North Trichur-Cochin 400 kV (Quad) D/C line at North Trichur HVDC station, along with associated bays & equipment (GIS) at North Trichur HVDC station	9.4.2020	9.3.2021	
4	2 X 315 MVA 400/220/33 kV 3 Ph Auto Transformer along with its associated bays & equipment (GIS) at North Trichur HVDC station	9.4.2020	9.3.2021	
5	2 additional 220 kV line bays (GIS) at North Trichur HVDC for the implementation of a 220 kV feeder of Kerala	9.4.2020	9.3.2021	

Date of Commercial Operation

45. No submissions have been made by any of the Respondents on the aspect of the date of commercial operation. Therefore, we find no reason to differ from the earlier approved COD vide order dated 16.2.2023 in Petition No. 242/TT/2021. The Relevant extracts of the said order are reiterated herewith as follows:

“ 23. The Petitioner has submitted RLDC Charging Certificate dated 12.11.2021 certifying that trial operation was successfully completed on 24.10.2021 and CMD Certificate as required under the Grid Code.

24. Taking into consideration the CEA Energization Certificate, RLDC Charging Certificate and the Petitioner's CMD Certificate, COD of the transmission asset is approved as 25.10.2021.”



Capital cost

46. The Petitioner vide affidavit dated 6.12.2021 has claimed the following capital cost incurred as on COD and Additional Capital Expenditure (ACE) projected to be incurred in respect of the transmission assets and has submitted an Auditor's Certificate dated 18.11.2021 in support of the same:

(₹ in lakh)

FR approved cost	Capital cost up to COD	Projected ACE				Capital cost as on 31.3.2024
		2020-21	2021-22	2022-23	2023-24	
148282.27	117162.46	0.00	3973.01	9584.13	0.00	130719.60

Cost variation

47. No submissions have been made by any of the Respondents on the aspect of cost variation. Therefore, we find no reason to differ from the observations made with regard to the cost variation in the earlier order dated 16.2.2023 in Petition No. 242/TT/2021. The Relevant extracts of the order are reiterated as follows:

“

33. We have considered the submissions of the Petitioner and the Respondent(s). The Petitioner has submitted reasons of cost variation with respect to FR cost. As per Auditor's Certificate dated 18.11.2021 submitted vide affidavit dated 6.12.2021 there is a reduction of ₹17562.67 lakh in the estimated completion cost as compared to FR cost in respect of transmission asset. It is observed that the cost increase/variation in case of sub-station is due to the increase/decrease in the materials and sub-station equipment cost (including taxes and duties) due to quantity variation as per actual site condition encountered during execution and price variation as per actual contract prices received in open bidding. The price variation is beyond the control of the Petitioner. The estimated completion cost of transmission asset is within the FR cost and the same is allowed.

34. The Petitioner has submitted the Petition No. 685/TT/2020 for Pole-I, Petition No. 173/TT/2021 for Pole-II and Pole-III and Petition No. 242/TT/2021 (i.e. instant petition) for transmission charges of Pole-IV. It is observed from the submissions of the Petitioner in various petitions as indicated above that there is unequal distribution of FR cost amongst Pole-I, Pole-II, Pole-III and Pole-IV. Accordingly, the Petitioner is directed to submit the reasons for unequal distribution of FR cost amongst Pole-I, Pole-II, Pole-III and Pole-IV at the time of truing up.”



Time Overrun

48. As per the IA dated 5.5.2016, the transmission project was scheduled to be put into commercial operation within 42 months from the date of IA, i.e., by 5.11.2019. However, there is a time overrun in the case of the transmission asset as follows:

SCOD	Actual COD	Time overrun
5.11.2019	25.10.2021	720 days

49. TANGEDCO, vide its reply vide affidavit dated 29.12.2023, has submitted that as per the Investment Approval (IA), the transmission asset was scheduled to be commissioned within 42 months from the date of IA, i.e., 5.5.2016. Accordingly, the commissioning schedule works out to 5.11.2019 against which the transmission asset was put under commercial operation w.e.f. 25.10.2021. Hence, there is a time overrun of 23 months and 20 days in the commissioning of the transmission asset.

50. TANGEDCO has further submitted that the time for completing the project was framed duly considering the limitations faced by the Petitioner while commissioning the transmission assets. The Petitioners' inability to complete the project within the specified time frame, and their praying for condoning the delay, stating RoW issues, litigation, law, etc, is infirm. The reasons stated by the Petitioner are covered under controllable factors as stipulated in Regulation 22 (1)(a) of the 2019 Tariff Regulations. Hence, the aforesaid reasons provided by the Petitioner are unjustifiable and should not be condoned by the Commission. Accordingly, the Commission may deduct the IDC and IEDC corresponding to the delayed period.



51. In response, the Petitioner, vide affidavit dated 5.1.2024, has submitted that TANGEDCO has erroneously contested the issue of time overrun. According to the Petitioner, the tariff issues raised have already been adjudicated, considered, and finalised while passing the tariff order dated 16.2.2023 in Petition No. 242/TT/2021 (the date is wrongly mentioned by the Petitioner as 22.2.2023). The said findings were not even challenged by TANGEDCO in the Appeal bearing No. 776 of 2023 (wrongly mentioned as 705 of 2023) and were not even considered by the Tribunal while deciding the Appeal. On the issue of time overrun, the Petitioner has placed reliance on its earlier rejoinder filed vide affidavit dated 14.12.2021 in Petition No. 242/TT/2021.

52. We have considered the submissions of the Petitioner and TANGEDCO and have perused the record. In our view, the submissions raised by the parties are similar to those filed before remand in the instant matter. As stated above, we have already considered the submissions of the Respondents, including TANGEDCO, in the order dated 16.2.2023 in Petition No. 242/TT/2021. Accordingly, the relevant portions of the order dated 16.2.2023 are as follows:

“36. The Petitioner vide petition and vide affidavit dated 6.12.2021 has submitted that the delay in execution of transmission asset (Pole-IV), herein can be bifurcated into following two parts:

(1) Delay up to 6.9.2020, i.e. delay in execution of Pole-I which have been enumerated in detail in Petition No. 685/TT/2020 and the delay reasons already submitted in Petition No. 685/TT/2020 along with documentary evidence. The detailed reasons along with chronology for time over-run up to 6.9.2020, i.e. execution of Pole-I have been reproduced in the instant petition along with documentary evidence.

(2) Delay beyond 6.9.2020, i.e. delay in execution of Pole-IV is attributable to severe RoW problems during execution of Scheme-2: AC System Strengthening at Pugalur-end and Scheme-3: Pugalur-Trichur 2000 MW VSC Based HVDC System.

37. The Petitioner has submitted that the time over-run up to 6.9.2020 is mainly because of delay in grant of forest clearance in Gadchiroli-Chandrapur, Bellampalli, Ramgiri, Vellore and Dharampuri for HVDC transmission line, court case during award of HVDC terminal order, RoW vis-à-vis law-and-order problems during construction of transmission lines,



litigations and Covid-19 Pandemic. The Petitioner has submitted that after managing intense statutory clearances, difficult terrain conditions, court cases throughout the stretch of the transmission line, RoW problems and other construction challenges in the Western and Southern Regions, the Petitioner has squeezed the prolonged delay and put the transmission asset, i.e. main HVDC line and Pole-I into commercial operation on 6.9.2020.

38. With regard to time over-run beyond 6.9.2020, the Petitioner has submitted that it was decided in the Joint Standing Committee meeting of SR and WR constituents held on 20.4.2015, that the transmission scheme “ ± 800 KV 6000 MW HVDC link with terminals at Raigarh & Pugalur along with VSC based 2000 MW HVDC link between Pugalur and North Trichur (Kerala) and associated AC Transmission System at 400 kV level” would be implemented as three separate transmission schemes as follows:

- i. Scheme-1: Raigarh-Pugalur 6000 MW HVDC System
- ii. Scheme-2: AC System Strengthening at Pugalur-end
- iii. Scheme-3: Pugalur-Trichur 2000 MW VSC Based HVDC System

39. In the above Joint Standing Committee meeting, it was decided that the transmission schemes may be implemented as separate transmission schemes, however, it is important that the Scheme-2 and Scheme-3 should be in place before commissioning of 6000 MW Raigarh-Pugalur link. Further, the Raigarh-Pugalur-Trichur HVDC transmission scheme was discussed in the 39th meeting of SCPSRSR held on 28-29 December, 2015. In the meeting, it had been agreed that schedule of Scheme-3, viz., Pugalur-Trichur 2000 MW VSC Based HVDC System shall be kept with Bi-Pole-II (i.e. 3000 MW) of Scheme-1. It was also decided in the above meeting that in case of any mismatch in the execution of these transmission schemes, their usefulness shall be discussed with CEA before their commissioning. Since there was delay in execution of Scheme-2 and 3 due to severe RoW issues in the areas of Tamil Nadu and Kerala, the matter was discussed in CEA meetings dated 21.8.2020, 30.12.2020 and 5.7.2021 in order to mitigate the issue of mismatch and to ensure the usefulness of the commissioned transmission asset.

40. Accordingly, as agreed in the above meetings dated 21.8.2020, 30.12.2020 and 5.7.2021, the Petitioner has carried out part commissioning of various transmission assets covered under Scheme-1, 2 and 3 of the subject project in the following sequence:

(a) Raigarh-Pugalur HVDC Transmission link along with Pole-I and 400 kV D/C Pugalur (HVDC)-Pugalur (existing) and Pugalur (HVDC)-Arasur Transmission Lines were put under commercial operation w.e.f. 6.9.2020 and claimed under Petition No. 685/TT/2020 (HVDC system) and Petition No. 693/TT/2020 (AC system).

(b) Pole-II and ± 320 kV 2000 MW Pugalur-North Trichur HVDC link along with Mono Pole-II and AC system i.e. LILO of 400 kV D/C North Trichur line, 2x315 MVA 400/220 kV ICTs and 2 numbers 220 kV line bays at North Trichur (HVDC) were put under commercial operation w.e.f. 9.3.2021. Pole-II has been covered in Petition No. 173/TT/2021 and remaining transmission assets are covered under Petition No. 172/TT/2021.

(c) Mono Pole-I i.e. ± 320 kV 1000 MW HVDC terminals each at Pugalur (HVDC Station) and North Trichur (HVDC Station, Kerala) was put under commercial operation w.e.f. 8.6.2021 and covered under Petition No. 172/TT/2021.

(d) Pole-III i.e. 1500 MW HVDC terminals each at Raigarh and Pugalur HVDC Sub-stations along with part of AC System of Scheme-2 consisting of



400 kV D/C Pugalur (HVDC)-Edarpalayam transmission line and 400 kV D/C Edarpalayam-Udumalpet transmission line were put under commercial operation w.e.f. 13.7.2021. Pole-III has been covered in the Petition No. 173/TT/2021 and AC System is covered in Petition No. 243/TT/2021.

(e) Pole-IV i.e. 1500 MW HVDC terminals each at Raigarh and Pugalur HVDC Sub-stations along with part of AC System of Scheme-2 consisting of 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line was put under commercial operation w.e.f. 25.10.2021. Pole-IV has been covered in Petition No. 242/TT/2021 and AC System is covered in Petition No. 243/TT/2021.

41. The Petitioner has submitted copy of minutes of CEA/Constituents meetings dated 21.8.2020, 30.12.2020 and 5.7.2021 and has submitted PERT and CPM Chart, i.e. Planned vs Actual execution time in support of condonation of time over-run claim. Further, the Petitioner has requested the Commission to condone the delay in completion of transmission asset covered in the instant petition on merit of the same being out of the control of the Petitioner in line with the Regulation 22(2)(c) of the 2019 Tariff Regulations "uncontrollable factors" and approve the tariff as claimed under the 2019 Tariff Regulations.

42. MPPMCL has submitted that the delay is due to various factors like court cases, forest clearance, RoW etc. MPPMCL has further submitted that the Petitioner has resolved the issues of RoW with the help of Central/State/District/local Administration. While commissioning of transmission lines, RoW issues, litigation, law and order problem are common, and they are not under force majeure condition. Further, it is the sole responsibility of the Petitioner to obtain all the required consents/clearances, including forest clearance for timely completion of the project. The Covid-19 pandemic lockdown started after scheduled completion period, therefore, had the Petitioner resolved all issues in time, the work would have been completed well before lockdown commenced. MPPCL has submitted that delay in getting clearance from forest department and revenue authorities are purely attributable to the Petitioner and, therefore, prayed that the delay due to these reasons may be disallowed.

43. KSEBL has submitted that the Petitioner has claimed delay due to RoW issues, forest clearance, wildlife clearance and livelihood rehabilitation from forest department and the delay in getting clearance from forest department and revenue authorities could have been avoided and controlled with better coordination.

44. TANGEDCO has submitted that execution of transmission lines, RoW issues, Court cases litigation are common, and they are not force majeure conditions. TANGEDCO has further submitted that except for the lockdown period imposed from 24.3.2020, other delays are attributable to the Petitioner. Hence, the reasons given by the Petitioner are unjustifiable and delay may not be condoned.

45. In response to the above submissions of MPPMCL, KSEBL and TANGEDCO, the Petitioner has reiterated and relied on the facts as set out by it in the petition. The Petitioner has submitted that details of time over-run and supporting documents including PERT and CPM Chart i.e. planned vs actual, have already been submitted along with the petition. Further, the details of execution of other transmission assets under the Transmission Scheme 1, Scheme 2 and Scheme 3 have also been submitted along with the relevant minutes of the meeting with SR constituents and CEA vide affidavit dated 6.12.2021. The Petitioner has further referred to the provisions of Regulation 22(2) of the 2019 Tariff Regulations to submit that



delay was on account of uncontrollable factors which were beyond the control of the Petitioner.

46. We have considered the submissions of the Petitioner and the Respondents MPPMCL, KSEB and TANGEDCO and have gone through the documentary evidence produced on record to justify the time over-run. The transmission asset was scheduled to be put into commercial operation within 42 months from the date of investment approval dated 5.5.2016. Accordingly, the scheduled COD works out to 5.11.2019. However, the transmission asset (Pole-IV) was put into commercial operation on 25.10.2021. Therefore, there is a time over-run of 720 days in execution of the transmission asset. The Petitioner has submitted that the time over-run may be analyzed in two parts (i) delay up to 6.9.2020 of about 306 days in execution of Raigarh-Pugalur HVDC transmission link and Pole-I and (ii) delay beyond 6.9.2020 of about 414 days upto execution of the transmission asset (i.e. Pole-IV).

47. It is observed that the 1st element of the subject HVDC transmission scheme i.e. Raigarh-Pugalur HVDC transmission link and Pole-I together with matching AC System, namely, 400 kV D/C Pugalur (HVDC)-Pugalur (existing) and Pugalur (HVDC)-Arasur transmission lines were put under commercial operation w.e.f. 6.9.2020 and claimed under Petition No. 685/TT/2020 (HVDC System) and Petition No. 693/TT/2020 (AC System). The Petitioner has submitted that the time over-run up to 6.9.2020 is mainly because of delay in grant of forest clearance in Gadchiroli-Chandrapur, Bellampalli, Ramgiri, Vellore and Dharampuri for HVDC transmission line, court case during award of HVDC terminal, RoW vis-à-vis law-and-order problems during construction of transmission lines, litigations and Covid-19 Pandemic situations. Taking into consideration the submission of the Petitioner, the Commission vide order dated 29.9.2022 in Petition No. 685/TT/2020 condoned the time over-run upto their COD on 6.9.2020. The relevant portions of the order dated 29.9.2022 are as follows:

“54. As stated above, the transmission asset was scheduled to be put into commercial operation on 5.11.2019 and it was put into commercial operation on 6.9.2020. Thus, there is a time over-run of 306 days. It is evident from the above discussion that the implementation of the transmission asset was affected by various court cases initially at the time of issue of NOA and latter while construction of the transmission line. Apart from this, there was delay in grant of forest clearance. It is observed that the first Court case was filed by one of the bidders before the Delhi Court High Court on 13.5.2016 that was disposed on 6.1.2017. Further, numerous Court cases were filed by the land owners seeking more compensation before various forums starting from 16.6.2017 and the Petitioner could resolve them only by 30.1.2020. Besides this, as stated above there was considerable delay in grant of forest clearance and the last Stage-I clearance was granted on 24.9.2019. However, the time taken for grant of forest clearance is subsumed by the time taken for resolving the RoW issues. Thus, the Petitioner faced serious issues from 13.5.2016 to 30.1.2020, i.e. more than three years and thereafter the Petitioner could complete the stringing finally on 16.3.2020. We are of the view that the issues faced by the Petitioner from 13.5.2016 to 24.9.2019, as enumerated above, are beyond the control of the Petitioner and accordingly the time over-run from 6.11.2019 upto 16.3.2020 (completion of stringing), i.e. 133 days is condoned.”

“57. Taking into consideration the OM dated 13.5.2020 on force majeure and the fact that Government unlocked the Covid-19 restrictions on 31.8.2020



and thereafter the Petitioner declared COD of the transmission asset on 6.9.2020. In view of the facts and circumstances of the case, we condone the time over-run of 173 days from 17.3.2020 to 5.9.2020 on account of Covid-19 pandemic as the same falls under Regulation 22(2) of the 2019 Tariff Regulations and is beyond the control of the Petitioner. Accordingly, we condone the total time over-run of 306 days in case of the instant transmission asset.”

48. The Petitioner in the instant petition has submitted the same set of justification and documents that were placed before the Commission in Petition No. 685/TT/2020. The Commission has already perused the time over-run up to 6.9.2020 and after detailed analysis condoned the time over-run up to 6.9.2020. The transmission asset i.e. Pole-IV is an integral part of the subject HVDC System. Hence, technically the transmission asset could not have been put into commercial operation prior to 6.9.2020 i.e. before the COD of Raigarh-Pugalur HVDC line and Pole-I covered under Petition No. 685/TT/2020. Thus, the decision in the above order dated 29.9.2022 in respect of Raigarh-Pugalur HVDC line and Pole-I covered in Petition No. 685/TT/2020 regarding condonation of time over-run up to 6.9.2020 is applicable in the transmission assets also. Therefore, for the sake of brevity, we are not deliberating on RoW and Covid related hinderances once again in this order since the transmission asset covered in the instant petition i.e. Pole-IV is an integral part of the subject HVDC project, and the directions contained in the above order dated 29.9.2022 regarding condonation of delay up to 6.9.2020 of 306 days is equally applicable to the transmission asset herein. Accordingly, the time over-run up to 6.9.2020 of 306 days in respect of the transmission asset (i.e., Pole-IV) is condoned.

49. With regard to the time over-run beyond 6.9.2020, the Petitioner has submitted that it was decided in the Joint Standing Committee meeting of SR and WR constituents held on 20.4.2015, that the subject HVDC transmission system shall be implemented in three transmission schemes i.e., Scheme-1: Raigarh-Pugalur 6000 MW HVDC System, Scheme-2: AC System Strengthening at Pugalur-end and Scheme-3: Pugalur-Trichur 2000 MW VSC Based HVDC System. It was further decided that that Scheme-2 and Scheme-3 should be in place before commissioning of Scheme-1. The Raigarh-Pugalur-Trichur HVDC transmission system had been further discussed in the 39th meeting of SCPSPSR held on 28-29 December, 2015. In the meeting, it was also agreed that schedule of Scheme-3, viz- Pugalur-Trichur 2000 MW VSC Based HVDC System, shall be alongwith Bi-Pole-II (i.e. 3000 MW) of Scheme-1. It was also decided that in case any mismatch in the execution of these transmission schemes, their usefulness shall be discussed with CEA before their commissioning. The execution of Scheme-3 i.e. Pugalur-Trichur 2000 MW VSC Based HVDC link was delayed due to severe RoW problem in the stretches falling in Tamil Nadu and Kerala. Accordingly, a series of meetings were convened by CEA/constituents on 21.8.2020, 30.12.2020 and 5.7.2021 to discuss the issue of part commissioning of Raigarh-Pugalur-Trichur HVDC transmission system.

50. The relevant extracts of the Minutes of the meeting held on 5.7.2021 pertaining to transmission asset are as follows:

“1. Member (Power System), CEA, welcomed the participants. Chief Engineer (PSPA-I), CEA, stated that the meeting had been convened to discuss part commissioning of Raigarh-Pugalur-Trichur HVDC transmission system.



2. It was informed that the Raigarh-Pugalur-Trichur HVDC transmission system was discussed and agreed in the Joint Standing Committee meeting of SR & WR constituents held on 20.04.2015. Scheme details are as follows:

- i. Scheme 1: Raigarh-Pugalur 6000 MW HVDC Transmission System
- ii. Scheme 2: AC System Strengthening at Pugalur end
- iii. Scheme 3: Pugalur –Trichur 2000 MW VSC Based HVDC System

Details of Scheme 1,2, and 3 are given below:

Scheme 1: Raigarh-Pugalur 6000 MW HVDC System

- i. Establishment of Raigarh HVDC Station ± 800 kV with 6000 MW HVDC terminals.
- ii. Establishment of Pugalur HVDC Station ± 800 kV with 6000 MW HVDC terminals.
- iii. ± 800 kV Raigarh (HVDC Station) – Pugalur (HVDC Station) HVDC Bipole link with 6000 MW capacity.

Scheme 2: AC System Strengthening at Pugalur end:

- i. Pugalur HVDC Station – Pugalur (Existing) 400 kV (quad) D/c line.
- ii. Pugalur HVDC Station – Arasur 400 kV (quad) D/c line.
- iii. Pugalur HVDC Station – Thiruvalam 400 kV (quad) D/c line with 2x80 MVAR line reactor at Pugalur HVDC Station end and 2x63 MVAR line reactor at Thiruvalam 400 kV end.
- iv. Pugalur HVDC Station – Edayarpalayam 400 kV (quad) D/c line.
- v. Edayarpalayam – Udumulpet 400 kV (quad) D/c line.

(Establishment of 400/220 kV Sub-station at Edayarpalayam with 2x500 MVA transformers and 2x125 MVAR bus reactors would be under the scope of TANTRASCO. The bay for ISTS transmission lines at Edayarpalayam would be implemented as ISTS.)

Scheme 3: Pugalur- Trichur 2000 MW VSC Based HVDC System:

- i. +320 kV, 2000 MW VSC based HVDC terminal at Pugalur. The HVDC Station would have GIS for 400 kV part and AIS for HVDC part.
- ii. +320 kV, 2000 MW VSC based HVDC terminal at North Trichur. The HVDC Station would have GIS for 400kV part and AIS for HVDC part.
- iii. Establishment of VSC based 2000 MW HVDC link between Pugalur and North Trichur* (Kerala). (*part/parts of this link, in the Kerala portion, may be implemented as underground cable where implementation as overhead transmission line is difficult because of RoW issues).
- iv. LILO of North-Trichur – Cochin 400 kV (Quad) D/c line at North Trichur HVDC Station.

3. In the Joint Standing Committee meeting held on 20.4.2015, it had been decided that the schemes may be implemented as separate schemes, however, it is important that the Scheme# 2 Scheme# 3 should be in place before commissioning of 6000 MW Raigarh – Pugalur link.

4. It was also informed that the Raigarh-Pugalur-Trichur HVDC transmission system had been further discussed in the 39th meeting of SCPSPSR held on 28-29 December, 2015. In the meeting, it was deliberated that schedule of scheme # 3 shall be kept as Pole-2 (3000 MW) of Scheme-1. It had been decided in the 39th SCPSPSR meeting that in case of any mismatch in the execution of these schemes, their usefulness shall be discussed with CEA before their commissioning.

5. Accordingly, as per the discussions in the meeting held on 21.08.2020 and 30.12.2020 regarding part commissioning of Raigarh-Pugalur-Trichur HVDC transmission system, the following elements of



Raigarh-Pugalur-Trichur HVDC transmission system have already been commissioned.

- i. Bipole-I (3000 MW) of Raigarh-Pugalur HVDC transmission system (part of scheme 1)
- ii. Pugalur (HVDC) – Pugalur (Existing) 400 kV (quad) line & Pugalur (HVDC) – Arasur 400 kV (quad) line (part of scheme 2)
- iii. Monopole-II (1000 MW) of Pugalur – North Trichur VSC HVDC system transmission (part of Scheme-3)

Element wise status of the complete scheme is given at Annex-II

6. POWERGRID informed that the trial operation for Monopole-I (1000 MW) of Pugalur – North Trichur VSC HVDC system has been successfully completed.

7. CTUIL informed that POWERGRID has proposed following elements of the Raigarh-Pugalur-Trichur HVDC system for commissioning in phased manner:

Elements ready for commissioning at present:

- i. Pole-I (1500 MW) of Bipole-II (3000 MW) of Raigarh – Pugalur HVDC system (part Scheme # 1)
- ii. Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line (part Scheme # 2)
- iii. Edayarpalayam – Udumulpet 400 kV (quad) D/c line (part Scheme # 2)

Elements to be ready for commissioning by July, 2021:

- i. Pole-II (1500 MW) of Bipole-II (3000 MW) of Raigarh – Pugalur HVDC system (part Scheme # 1)
- ii. Pugalur (HVDC) – Thiruvalem 400 kV (quad) D/c line (part Scheme # 2)

It was also informed that Edayarpalayam S/s is still under implementation by TATRANSCO. Hence, Edayarpalayam S/s has been bypassed as an interim measure to form Pugalur (HVDC) – Udumulpet 400 kV (quad) D/c line by connecting Pugalur (HVDC) – Edayarpalayam 400 kV (quad) line and Edayarpalayam – Udumulpet 400 kV (quad) line.

xxxxx

xxxxx

18. After deliberations, following was agreed:

i. As trial operation of Monopole-I (1000 MW) of Pugalur – North Trichur VSC based HVDC system has already been completed, therefore the same may be commissioned.

ii. Following transmission elements may be commissioned on completion.

- Pole-I (1500 MW) of Bipole-II (3000 MW) of Raigarh-Pugalur HVDC system.
- Pugalur (HVDC) Station – Edayarpalayam 400 kV (quad) D/c line.
- Edayarpalayam – Udumulpet 400 kV (quad) D/c line

Pole-I (1500 MW) of Bipole-II (3000 MW) would be commissioned only after commissioning of Pugalur (HVDC) – Edayarpalayam – Udumulpet 400 kV (quad) D/c line. As Edayarpalayam S/s is still under construction, the



Pugalur (HVDC) – Edarpalayam 400 kV (quad) D/c line and Edarpalayam – Udumalpet 400 kV (quad) D/c line would be by-passed at Edarpalayam to form Pugalur (HVDC) – Udumalpet 400 kV (quad) D/c line as an interim arrangement.

iii. POWERGRID to expedite the commissioning of Pugalur (HVDC) – Udumalpet 400 kV (quad) D/c line.”

51. As per the above minutes of meeting dated 5.7.2021 of CEA/Constituents, it has been proposed that the following elements of the Raigarh-Pugalur-Trichur HVDC System may be commissioned in phased manner:

(a) Elements ready for commissioning at present consisting of Pole-I (1500 MW) of Bipole-II (3000 MW) of Raigarh – Pugalur HVDC system (part Scheme # 1), i.e., Pole-III along with Pugalur (HVDC) – Thiruvallam & Edarpalayam – Udumalpet 400 kV (quad) D/C lines (part Scheme # 2).

(b) Elements to be ready for commissioning by July, 2021 consisting of Pole-II (1500 MW) of Bipole-II (3000 MW) of Raigarh – Pugalur HVDC system (part Scheme # 1), i.e., Pole-IV along with Pugalur (HVDC) – Thiruvallam 400 kV (quad) D/c line (part Scheme # 2).

52. Accordingly, Pole-IV i.e. 1500 MW HVDC terminals each at Raigarh and Pugalur HVDC Sub-stations alongwith part of AC System of Scheme-2 consisting of 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line was put under commercial operation w.e.f. 25.10.2021. Pole-IV has been covered in the instant Petition No. 242/TT/2021 and AC System is covered in Petition No. 243/TT/2021.

53. We have considered the submission of the Petitioner and the Respondents and perused the documents available on record including minutes of CEA meetings dated 21.8.2020, 30.12.2020 and 5.7.2021 and PERT and CPM Chart regarding Planned vs Actual execution time submitted by the Petitioner in support of condonation of time over-run in respect of the transmission asset. The Petitioner has submitted that the time over-run up to 6.9.2020 of about 306 days was due to delay in commissioning of Raigarh-Pugalur HVDC transmission link and Pole-I and additional delay beyond 6.9.2020 of about 414 days in the transmission asset, respectively was due to delay in commissioning of matching AC System of 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line covered under Scheme-2 on account of severe RoW issues in certain stretches of Tamil Nadu and Kerala States.

54. The Petitioner has submitted that the transmission asset consisting of HVDC Pole-IV Converter Transformer, Thyristor valves including PLC area and other valve equipment at Raigarh HVDC and Pole-IV Pugalur HVDC Station was completed and was ready for charging on 1.1.2021 and 22.1.2021, respectively. In support of the same, the Petitioner has submitted copies of CEA Charging Certificates dated 1.1.2021 and 22.1.2021. However, as decided in the CEA meeting dated 5.7.2021 the transmission asset, i.e. Pole-IV of part Scheme-1 was commissioned and put under commercial operation w.e.f. 25.10.2021 together with associated AC System of part Scheme-2 consisting of 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line.

55. The Petitioner has submitted that 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line was delayed due to RoW issues, forest clearance, Covid pandemic situations which were beyond the control of the



Petitioner. It is observed that the Petitioner has claimed tariff for 400 kV D/C Pugalur (HVDC)-Thiruvallam transmission line in Petition No. 243/TT/2021. The Commission vide order dated 24.11.2022 in Petition No. 243/TT/2021 has already dealt with the issue of time over-run and held as follows:

“41. The Petitioner has submitted that survey was carried out in Pugalur-Thiruvallam line of the Petitioner. As per the Petitioner’s policy every effort is made to avoid the forest area while finalizing the route alignment of this line. However, out of total line length of 390 km, the crossing of about 1.17 km line involving forest area of about 5.382 Ha of Ammur Reserve Forest (RF) in Arcot Range of Vellore District in Tamil Nadu was unavoidable and bare minimum. Accordingly, the Petitioner had submitted application for diversion of 5.382 Ha forest land in Ammur RF on 9.3.2018. Subsequently, interim forest approval (under Stage-I) was accorded on 3.12.2019 and final approval (under Stage-II) was granted on 21.1.2021. Thereafter, temporary working permission was issued on 22.1.2021 by the DFO, Vellore Forest Division subject to felling of only 2917 trees of spontaneous origin for which permission was obtained from Hon’ble Supreme Court of India. The Petitioner has submitted copies of documents in support of forest approval and work permission given by the Forest Authorities.

42. Asset-2 passes through forest area of 5.382 Ha in Tamil Nadu. The Petitioner has submitted the proposal for forest clearance on 9.3.2018 and obtained Stage-II forest clearance and permission for tree cutting in forest area from Forest Authorities on 22.1.2021. Thus, it took 1050 days in obtaining forest clearance. As per the Forest (Conservation) Amendment Rules, 2004 notified by MoEF on 3.2.2004, the timeline for forest approval after submission of proposal is 210 days by the State Government and 90 days by the Forest Advisory Committee of Central Government. Therefore, the processing time of forest approval is 300 days. In the instant case, the Petitioner applied for forest clearance on 9.3.2018 and obtained the same on 22.1.2021. As against the statutory period of 300 days for processing and obtaining the forest clearance, the Forest Authorities took more about 1050 days for grant of forest clearance. Therefore, the delay due to forest clearance for 1050 days was beyond the control of the Petitioner. We are of the view that time period beyond 300 days is not within the control of the Petitioner. Accordingly, out of the total time over-run of about 1050 days, time over-run of 750 was beyond the control of the Petitioner and the same is condoned.

43. We have observed in the previous para of this order that the delay of about 979 days has occurred due to events of RoW and Court cases and is beyond the control of the Petitioner. Further, we have also observed above that time over-run of 750 due to forest clearance was beyond the control of the Petitioner and the same is condoned. It is seen that the forest clearance was obtained between 9.3.2018 to 22.1.2022, whereas the RoW issues and court case(s)/litigations occurred between 20.2.2018 to 26.10.2020. Therefore, delay due to RoW and Court case is subsumed in the delay due to forest clearance.

44. Accordingly, the additional time of 750 days due to forest clearance had a cascading effect on the execution of Asset-2 and was beyond the control of the Petitioner. However, the Petitioner was able to reduce the execution time, and the Asset-2 has been put under commercial operation w.e.f. 25.10.2021 and accordingly the overall delay is 617 days. Therefore, the time



over-run of 617 days in Asset-2 due to forest clearance is beyond the control of the Petitioner and is condoned.”

56. The delay up to 25.10.2021 has already been condoned vide order dated 24.11.2022 in Petition No. 243/TT/2021. The Commission has perused the time over-run up to 25.10.2021 and after detailed analysis condoned the time over-run upto 25.10.2021 in respect of Pugalur-Thiruvalam 400 kV D/C line. Therefore, for the sake of brevity, we are not deliberating the RoW issues and court cases once again in the instant order. It is observed that the transmission asset (Pole-IV) was ready for charging on 22.1.2021 as per CEA Charging Certificates in this regard. Thus, Pole-IV was ready much before the COD dated 25.10.2021 of Pugalur-Thiruvalam Line. However, the same was put under commercial operation w.e.f. 25.10.2021 along with Pugalur-Thiruvalam Line as per directive of CEA meeting dated 5.7.2021. Therefore, the time over-run from 6.9.2020 to 25.10.2021 of about 414 days was beyond the control of Petitioner so far as the transmission asset (Pole-IV) is concerned. We have already condoned the delay of 306 days from SCOD to 6.9.2020 in execution of the transmission asset in the preceding paragraphs of this order. Accordingly, the total time over-run of 720 days (306+414) in respect of the transmission asset is condoned.

57. In view of the above, the time over-run of 720 days in respect of the transmission asset under Scheme-1 deserves to be condoned and, hence, condoned. The details of time over-run condoned/not condoned are as follows:

Schedule COD as per IA	Actual COD	Time Over-run	Time Over-run condoned	Time Overrun not condoned
5.11.2019	25.10.2021	720 days	720 days	Nil

53. We have already considered the reasons submitted by the Petitioner for the time overrun and the objections raised by the Respondents, including TANGEDCO, while issuing the order dated 16.2.2023 in Petition No. 242/TT/2021. Hence, we do not find any reason to interfere with our earlier findings in this order.

Operation and Maintenance Expenses (“O&M Expenses”)

54. TANGEDCO, vide its reply affidavit dated 29.12.2023 on remand, has reiterated its submissions as made earlier vide affidavit dated 2.12.2021 in Petition No. 242/TT/2021.



55. In response, the Petitioner, in an affidavit dated 5.1.2024, reiterated its submissions made earlier in an affidavit dated 14.12.201 in Petition No. 242/TT/2021.

56. We have considered the submissions of the Petitioner and TANGEDCO and have perused the record. In our view, the submissions raised by the parties are similar to those filed earlier before remand in this matter. As stated above, we have already examined the submissions of the Respondents, including TANGEDCO, in the order dated 16.2.2023 in Petition No. 242/TT/2021. Accordingly, the relevant portions of the order dated 16.2.2023 are as follows:

“ 80. The Petitioner has submitted that the O&M Expenses for 800 kV HVDC line and HVDC terminal has been calculated as per Regulation 35(3)(a)(i) and 35(3)(a)(ii) of the 2019 Tariff Regulations 2019. The O&M Expenses claimed by the Petitioner for the transmission asset for the 2019-24 period are as follows:

Particulars	2021-22 (Pro-rata 158 days)	2022-23	2023-24
HVDC Terminal: Pole-IV (1500 MW) HVDC terminals each at Raigarh and Pugalur HVDC Sub-stations			
Units (numbers)	1	1	1
Norms (₹ lakh/units)	1373.00	1421.00	1471.00
Total O&M expenses	594.34	1421.00	1471.00

81. The norms specified under Regulation 35(3)(a) of the 2019 Tariff Regulations provide as follows:

“35. Operation and Maintenance Expenses:

““

(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942



Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
 - ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
 - iii. the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
 - iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
 - v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
 - vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*
- (b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.*
- (c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:*

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.”

82. MPPMCL and KSEB has submitted that the Petitioner has claimed O&M Expenses for HVDC Terminal calculated considering the pro-rata O&M Expenses allowed for ± 800 kV Biswanath-Agra HVDC bipole transmission scheme (₹ lakh) (3000 MW). MPPMCL has requested that the O&M Expenses may be fixed separately for this transmission scheme as per the regulations in force. In response, the Petitioner has submitted that the O&M Expenses for 800 kV HVDC terminal has been calculated considering the pro-rata of O&M Expenses allowed for similar HVDC i.e. ± 800 kV Biswanath-Agra HVDC bipole transmission scheme (Rs. lakh) (3000 MW) as per Regulation 35 (3)(a) (i) and 35(3)(a)(ii) of the 2019 Tariff Regulations.



83. TANGEDCO has submitted that the Petitioner has calculated O&M Expenses for HVDC terminal considering the pro-rata O&M Expenses allowed for similar HVDC i.e. ± 800 kV Biswanath-Agra HVDC bipole (3000 MW). Further, the Petitioner has claimed exorbitant O&M Expenses for the HVDC terminal of the ± 800 kV Raigarh-Pugalur HVDC bipole transmission scheme of 6000 MW capacity which works out to be double the rate of ± 800 kV Biswanath-Agra HVDC bipole transmission scheme (3000 MW). The calculation is erroneous and unacceptable. TANGEDCO has submitted that normative rate of O&M Expenses for a similar bi-pole transmission scheme of ± 800 kV HVDC bi-pole of 6000 MW capacity is not available in the regulation. Hence, prayed the Commission to disallow the imprudent claim of the Petitioner and to determine the O&M Expenses for the new HVDC ± 800 kV Raigarh-Pugalur HVDC bipole transmission scheme of 6000 MW capacity.

84. In response, the Petitioner has submitted that the O&M Expenses for 800 kV HVDC terminal has been calculated as per proviso (i) and (ii) of Regulation 35(3)(a) and 35(3)(a) of the 2019 Tariff Regulations. Accordingly, the O&M Expenses for HVDC terminal calculated considering the pro-rata of O&M Expenses allowed for similar HVDC i.e. ± 800 kV Biswanath-Agra HVDC bipole transmission scheme (lakh) (3000 MW).

85. We have considered the submissions of the Petitioner and MPPMCL, KSEB and TANGEDCO. The O&M Expenses are allowed under proviso (i) and (ii) of Regulation 35(3)(a) of the 2019 Tariff Regulations as claimed by the Petitioner but the Petitioner is directed to submit the detailed actual computation of the O&M Expenses for the HVDC terminal at the time of true-up. The O&M Expenses allowed for the 2019-24 tariff period are as follows:

Particulars	2021-22 (Pro-rata 158 days)	2022-23	2023-24
HVDC Terminal: Pole-IV (1500 MW) HVDC terminals each at Raigarh and Pugalur HVDC Sub-stations			
Units (numbers)	1	1	1
Norms (₹ lakh/units)	1373.00	1421.00	1471.00
Total O&M expenses	594.34	1421.00	1471.00

”

57. We have already considered the submissions of the Petitioner and Respondents with regard to the O&M Expenses in our earlier order dated 16.2.2023 in Petition No.242/TT/2021, we had allowed the same under provisos (i) and (ii) of Regulation 35(3)(a) of the 2019 Tariff Regulations, as claimed by the Petitioner. However, the Petitioner is directed to submit the detailed actual computation of the O&M Expenses for the HVDC Terminal at the time of true-up.



Annual Fixed Charges (AFC) for the 2019-24 Tariff Period:

58. In light of the above discussions, we are of the view that, apart from what has been mentioned, no new submissions have been made by any of the Respondents in the remand proceedings. In our view, the Respondents have not made a case to differ from the transmission charges previously allowed by the order dated 16.2.2023 in Petition No. 242/TT/2021 concerning the transmission asset for the 2019-24 tariff period. Accordingly, the transmission charges for the transmission asset during the 2019-24 period are as follows:

(₹ in lakh)			
Particulars	2021-22 (Pro-rata 158 days)	2022-23	2023-24
Annual Transmission Charges			
Depreciation	2567.72	6299.89	6555.27
Interest on Loan	1117.71	2635.00	2575.48
Return on Equity	2881.85	7069.97	7356.54
O & M Expenses	594.34	1421.00	1471.00
Interest on Working Capital	108.68	263.81	271.38
Total	7270.29	17689.67	18229.67

59. There are no fresh submissions regarding filing fees, licence fees, RLDC fees and charges, GST, capital spares, etc. We are, therefore, of the view that the Commission's order dated 16.2.2023 in Petition No. 242/TT/2021 regarding filing fees, licence fees, RLDC fees and charges, GST, capital spares, etc., shall remain as it is and do not warrant modifications.

Part-2: Aspects other than tariff determination as per the directions of APTEL and raised by Respondents during the course of hearing of the instant Petitions after remand.

60. Proceedings, analysis, and decisions on aspects other than tariff determination are covered in the subsequent paragraphs:



Submissions of TANGEDCO

61. The submissions made by TANGEDCO in its reply affidavits dated 29.12.2023 in Petition Nos. 173/TT/2021 and 242/TT/2021 are as follows:

- a) The transmission system was originally envisaged for the evacuation of power from IPPs in Chhattisgarh, based on the Bulk Power Transmission Agreement (BPTA), entered into by IPPs with PGCIL/CTUIL, and the execution of bank guarantees (BGs), targeting the Western and Northern Regions as identified in the 28th and 29th SCPSP-WR meetings dated 6.12.2008 and 10.9.2009, respectively. The transmission system was planned as a ± 600 kV, 4000 MW HVDC Bipole between the Raigarh Pooling Station (Kotra)-Dhule (New).
- b) In the 11th meeting of Western Region constituents regarding Long-term Open Access (LTOA) applications, held on 10.9.2009 at Ahmedabad, transmission schemes were formulated to facilitate bulk power transfer from 12 Nos. IPPs. It was decided that the transmission charges would be borne by these IPPs until beneficiaries are identified and tied up through PPAs. The said minutes of the meeting further provide that the HVDC transmission scheme between Raigarh-Dhule was planned for the transfer of bulk power from 12 Nos. IPPs and the charges are to be borne by the IPPs till they identify the beneficiary and tie up through PPA.
- c) Accordingly, a BPTA dated 24.2.2010 was executed between the 12 Nos. IPPs and the Petitioner, containing a specific clause requiring regulatory approval from the Central Electricity Regulatory Commission. Subsequently, a Transmission Service Agreement (TSA) dated 6.8.2012 was entered into between the above 12 Nos. IPPs and the



Petitioner for the payment of transmission charges, qua the LTA granted, in terms of the BPTA dated 24.2.2010.

- d) The minutes of the 9th meeting dated 13.4.2010, concerning the Southern Region constituents on LTA Applicants, held in Gurgaon, wherein it was deliberated that BPTA and BG by generators were mandatory for the augmentation of any transmission system. This regulatory mandate was insisted on by the Petitioner, CTUIL, and CEA across all regions. Additionally, the issue of sharing transmission charges for the proposed transmission system was also deliberated upon. Once the BPTA and BG are provided by the IPPs for whom the transmission system is being developed, the transmission charges will be borne by the respective IPPs in proportion to their LTAs, including system strengthening. The Petitioner recognized the need for regulatory approval and complied with this requirement for the implementation of the transmission system, as reiterated by the CEA in the aforesaid meeting dated 13.4.2010. The Petitioner can only obtain investment approval after receiving regulatory approval. However, with respect to the Raigarh-Pugalur-Thrissur HVDC, which was initially conceived as an HVDC from Raigarh to Dhule for evacuating power from IPPs in Chhattisgarh for which regulatory approval was obtained from the Central Electricity Regulatory Commission, but was later modified to the extent of shifting of termination point from Dhule in WR to Pugalur in SR with increase in rating, capacity line length and VCS system upto Thrissur, no regulatory approval was sought from the Central Commission for these modifications, and an investment of ₹22,000



crore of public funds was made at the discretion of the Petitioner and CTUIL.

- e) The Petitioner filed Petition No. 233 of 2009 before the Commission, seeking regulatory approval for the 9 Nos. high-capacity power transmission lines, including the transmission system associated with the above 12 Nos. IPPs. The Commission, vide order dated 31.5.2010 in Petition No. 233 of 2009, granted regulatory approval for the said HVDC system between Raigarh-Dhule.
- f) In the 12th meeting dated 8.7.2010 of the WR constituents at NRPC, New Delhi, concerning connectivity/open access applications, the Petitioner deliberated that the 9 High-Capacity Transmission Corridors (HCTC), including the associated high-capacity Pooling Stations, had been identified for 32 Nos. IPPs to evacuate power, mainly in Chhattisgarh WR. In the meeting with IPPs from Chhattisgarh, Maharashtra, and Madhya Pradesh who had applied for LTOA under the 2004 Tariff Regulations, the Petitioner reviewed the progress of their generating projects. The importance of signing the BPTA for sharing transmission charges was emphasised, and the IPPs were reminded to submit the BG for the approved LTA quantum.
- g) According to TANGEDCO, various meetings of Western Region constituents regarding connectivity/open access, whose details have been given by it in its reply, specifically noted the grant of LTA, signing of LTAA and TSA, and all these agreements specify the generator and the transmission line or system.



- h) However, in the 35th meeting dated 4.1.2013 of the Western Regional Standing Committee on Power System Planning, the Petitioner and the central planner, CEA, decided to shift the termination point of the ± 600 kV, 4000 MW HVDC bipolar link from Dhule to a more suitable location in the Southern Region. This decision was taken in view of the planned development of parallel transmission corridors in the Dhule–Nashik–Malegaon area and the lack of firm commitment from beneficiaries for the IPPs in Chhattisgarh. As per the BPTA and TSA, the liability for transmission charges was fastened on the IPPs.
- i) From the above, the central planners initially proposed the HVDC system in the Western Region to facilitate the evacuation of power from IPPs located there. The matter of transmission charges liability for the IPPs until they finalised beneficiaries and signed PPAs was discussed in detail. Both the BPTA and TSA were signed by the IPPs in Chhattisgarh for the aforementioned transmission asset, and LTA was consequently granted. However, due to non-firming up of IPPs with beneficiaries and the planning of additional parallel corridors in the Dhule–Nashik–Malegaon area, the target region for the HVDC system planned at Raigarh (Kotra) was shifted from the Western Region to the Southern Region.
- j) The 36th meeting dated 29.8.2013, of SCPSP of WR, noted that Raigarh Pugalur HVDC was as follows:
- (i) It evolved as an additional system strengthening scheme for IPPs in Chhattisgarh.



(ii) It formed part of the transmission system associated with new IPP projects in Chhattisgarh, involving the shifting of the converter terminal of the ± 600 kV, 4000 MW Raigarh (Kotra)–Dhule HVDC line from Dhule in the Western Region to a suitable location in the Southern Region.

- k) In the 36th meeting dated 27.9.2013 of the Southern Regional Standing Committee on Power System Planning (SRSCPSP), it was observed that the Petitioner intended to implement the HVDC system, despite the existence of a BPTA with IPPs of Chhattisgarh for 4000 MW, as per the Commission's Regulatory Approval in Petition No. 233 of 2009. However, neither the BPTA nor the said Regulatory Approval was included in the agenda of the aforementioned meeting. Further, the requirements under Regulation 6 of the Central Electricity Regulatory Commission (Grant of Regulatory Approval for Execution of Inter-State Transmission Scheme to Central Transmission Utility) Regulations, 2010 (hereinafter referred to as 'the 2010 Regulatory Approval Regulations'), were not complied with. In the 24th meeting of Western Regional Power Committee (WRPC), it was observed that, under the transmission system associated with the new IPP projects in Chhattisgarh, it was agreed to terminate the HVDC terminal of the Raigarh (Kotra)–Dhule bipole in the Southern Region (near Chennai) instead of at Dhule.
- l) In the minutes of the meeting dated 21.5.2014 regarding the operationalisation of LTA/MTOA to the Southern Region (SR), it was decided to grant full LTA of 1208 MW, subject to the implementation of



the Solapur–Raichur 765 kV 2x S/C lines and other identified transmission systems in the Western Region (WR) and Southern Region (SR), as well as the relinquishment of the earlier granted access rights of the same quantum. Further, LTA from WR to SR was entered into by the IPPs to the extent of 1208 MW, contingent upon the relinquishment of an equivalent quantum under the BPTA executed for the High Capacity Corridor 'V', in which the Raigarh–Dhule transmission system was originally included, which was later modified to the Raigarh–Pugalur transmission system. The minutes of the meeting dated 24.7.2014 between the New Grid and the Southern Region, concerning the Total Transfer Capability (TTC) between the commissioning of the Solapur–Raichur 765 kV 2 x S/C line, sufficiently addressed the transmission system requirements for evacuating power from the WR to SR. This must be viewed in light of the anticipated surplus in WR and the projected deficit in SR, as indicated by the Petitioner, both being unrealistic. The 2009 Connectivity Regulations do not account for such a scenario. On the contrary, the regulations require identification of beneficiaries and a PPA for at least 50% of the LTA capacity applied for by the IPP, prior to the implementation of the transmission system. For the remaining capacity (not exceeding 50% of the LTA), where the exact source and destination have not been finalised, augmentation for system strengthening beyond the target region can only be undertaken after these are identified. None of these mandatory requirements were complied with by the Petitioner/CTUIL.



- m) Petition No. 233/2009 lists the generation projects across all regions of India. In WR meetings, the Petitioner contended that there was excess generation in the WR and significant demand in the SR. During the same period, in SR meetings, the Petitioner claimed that there was excess generation in SR and demand in the WR and NR.
- n) The Petitioner/CTUIL failed to fulfil the key responsibility of preparing an annual network plan based on the National Electricity Plan (NEP) for transmission capacity addition from 2012 to 2017. The mismatch between transmission projects and the associated generation projects has never been addressed seriously.
- o) CTUIL and the Petitioner ought to have identified IPPs with firm beneficiaries in SR prior to shifting the termination point of the HVDC from Dhule to Pugalur, originating from Raigarh. They should also have obtained fresh regulatory approval in accordance with Regulation 6 of the 2010 Regulatory Approval Regulations, as they had already secured regulatory approval for the HVDC from Raigarh to Dhule under Petition No. 233/2009.

Non-Compliance with Regulatory Approval Regulations:

62. The Petitioner failed to obtain fresh regulatory approval as per the requirement of Regulation 6 of the 2010 Regulatory Approval Regulations due to a change in the target region and scope of the Scheme. When there was a change in the region from WR to SR for terminating the HVDC line, the Petitioner and CTUIL ought to have approached the Commission intimating the change and ought to have sought a fresh approval as per the proviso to Regulation 6 (1) read with Regulation



6 (2) of the 2010 Regulatory Approval Regulations which refers to Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term open access to the Inter-State Transmission and Related Matters) Regulations, 2009 (hereinafter referred to as the '2009 Connectivity Regulations'). Regulation 5 of the 2009 Connectivity Regulations in such changed circumstances requires assessing the need for a transmission scheme – (i) technical justification, (2) urgency, and (3) prudence of the investment. There was a change in rating from 600 kV to 800 kV, a change in capacity from 4000 MW to 6000 MW, a change in the region where the HVDC was terminated – WR to SR, and a change in line length with a consequential increase in cost. The tariff cannot be granted in the absence of the mandated 2010 Regulatory Approval Regulations. The mandate to follow the regulations is laid down in the case of PTC India Ltd Vs CERC and Ors (2010) 4 SCC 603, which mandates that once there is a regulation framed by the Central Electricity Regulatory Commission, CTUIL is bound to follow the same and Central Electricity Regulatory Commission is bound to check that the regulations are followed in letter and spirit. In the circumstances, a grant of tariff without any regulatory approval would be unlawful.

Evaluation of the method of sharing transmission charges of HVDC systems and Applicability of the 2010 Sharing Regulations and SoR and the 2020 Sharing Regulations to Raigarh-Pugalur-Trissur (R-P-T) HVDC system:

63. The Central Electricity Regulatory Commission (CERC) has notified the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations 2010 (for short, '2010 Sharing Regulations') under Section 178 (2) (j), (k), (l) and (m) read with Sections 38 and 40 of the Act as amended from time to time notifying the methodology for sharing of transmission charges and losses of Inter-state transmission systems as per the mandate of



Section 61 of the Act. The 2010 Sharing Regulations were in force until 31.10.2020. The Commission notified the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 (hereinafter referred to as 'the 2020 Sharing Regulations'), came into force from 1.11.2020. The 2020 Sharing Regulations repealed the earlier 2010 Sharing Regulations. The Commission has been patently following the principle that there is no possibility of allocating the transmission charges of HVDC systems based on power flow and usage. As on the date of COD of the transmission system, the 2010 Sharing Regulations were in force and in line with the provisions under Statement of Reasons to the 2010 Sharing Regulations, as adopted by the Commission in the case of Biswanath Chariali-Agra, the subject Raigarh-Pugalur-Trissur HVDC system qualifies to be declared as national asset and its charges to be recovered under the national pool.

64. The transmission charges were imposed on TANGEDCO and other beneficiaries in respect of Biswanath Chariali- Alipurduar- Agra bipolar HVDC and Mundra-Mohindergarh HVDC and recovered by the Petitioner.

65. In the Bakshi Committee Report, the treatment of HVDC assets was dealt with in detail, and the views of stakeholders were also recorded. Further, CTUIL, in its reply dated 1.3.2023 filed in Appeal No. 433 of 2020, stated that they had given their recommendations to the Ministry of Power (MoP) for inclusion of the transmission assets under the National Component, and in the same line, CTUIL submitted to APTEL for inclusion of the transmission assets under the National Component.



66. The SRPC in its various meetings dated 12.7.2019, 1.2.2020, and 23.12.2020 agreed to take up the matter with MoP as well as the Commission for the declaration of the transmission assets as “Strategic and National Importance”. Accordingly, SRPC vide its letters dated 30.7.2019, 2.6.2020, and 7.1.2021, requested the MoP and CERC, respectively, to consider the case of Raigarh-Pugalur-Trissur HVDC similar to the Biswanath Chariali-Agra HVDC system and include its tariff under the National Component.

Power Exercised by the Central Electricity Regulatory Commission in similar cases:

(a) Treatment of Biswanath-Chariali -Alipurduar-Agra HVDC system

67. The ± 800 kV Biswanath Chariali - Agra HVDC system was originally agreed as a part of the associated transmission system/inter-regional system for Lower Subansiri (8x250 MW) and Kameng (4x150 MW) Hydro Electric Projects (HEP). However, the projects were unduly delayed, and the associated transmission system was ready for commissioning. Under such circumstances, the Petitioner filed the tariff Petition Nos. 67/TT/2015 and 184/TT/2016 seeking tariffs for the HVDC transmission system, wherein the Petitioner demonstrated that the assets are of national importance.

(b) Treatment of ± 500 kV HVDC Mundra - Mohindergarh HVDC transmission system:

68. On the other hand, the ± 500 kV HVDC Mundra-Mohindergarh HVDC transmission system, along with the associated transmission system, was initially built as a dedicated transmission system. Subsequently, in the third amendment to the 2010 Sharing Regulations, the Commission changed the treatment of Mundra-Mohindergarh HVDC, without any justification, from a regional asset to a national asset. According to TANGEDCO, the Statement of Reasons for the third



amendment of the 2010 Sharing Regulations indicates that without a detailed justification, the Mundra-Mohindergarh HVDC was considered a national asset for a capacity of 1005 MW, even though the transmission lines were dedicated in nature and the intended purpose was to evacuate power from the Mundra power station. None of the other regional beneficiaries were availing themselves of power using that corridor, other than NR.

69. TANGEDCO, vide its separate affidavits dated 25.7.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021, has made submissions regarding non-payment of transmission charges of Raigarh-Pugalur-Trissur (RPT) HVDC system assets. We are not dealing with the TANGEDCO's submissions with reference to non-payment of transmission charges for RPT HVDC system assets as during the hearing on 15.12.2023, the learned counsel for the Petitioner submitted that the Petitioner was not pursuing the IA No. 91 of 2023 and 92 of 2023 and requested the Commission to take up the matters that were on remand, namely, Petition Nos. 173/TT/2021 and 242/TT/2021

Funding from PSDF and NCEF

70. TANGEDCO has submitted that in the case of Biswanath-Chariali –Agra HVDC system, the tariff was approved by the Commission in Petition No. 67/TT/2015 only after availing a grant from PSDF by the Petitioner. Further, based on the directions of the Commission, MoP vide letter dated 10.3.2017 sanctioned a grant to the BNC-Agra HVDC project. TANGEDCO has further submitted that it also requested the Commission to direct the Petitioner to avail the grant from MoP. However, the Petitioner did not take any action to avail of the grant. Subsequently, the matter was deliberated in various SRPC meetings, and the Petitioner was



requested to take urgent action to avail the grant. In this regard, TANGEDCO vide letter dated 14.11.2022, requested the Petitioner to avail a grant from MoP. This was reiterated by the TANGEDCO vide letter dated 18.5.2023.

71. TANGEDCO's submissions as per the affidavit dated 28.3.2024 are as follows:

- a) BPTA and BGs are the financial security for the transmission service implementor, up to the date of firming up the IPPs with the beneficiaries by entering into a PPA. However, neither CTUIL nor the Petitioner brought on record BPTA and BGs executed under the 2009 Connectivity Regulations for the Raigarh Pugalur Thrissur HVDC system. The initially proposed capacity of HVDC from Raigarh to Pugalur was enhanced from 4000 MW to 6000 MW [+600 kV to +800 kV] to accommodate the projected need of 2000 MW at Thrissur by Powergrid. This necessitated the Petitioner /CTUIL to obtain a fresh regulatory approval under the relevant regulations and get fresh BPTA and BGs executed for the HVDC from Raigarh to Thrissur via Pugalur.
- b) Under the provisions of the Connectivity Regulations, only the Generators and Bulk Consumers are eligible to apply for connectivity. TANGEDCO, being a distribution licensee, is not entitled to apply for connectivity. Open Access is applied for by IPPs for the purpose of supplying power to a procurer. LTA is operationalised either pursuant to the execution of a PPA or, in some cases, even in the absence of a PPA.



The charges for the transmission system are borne by the generator till it enters into a PPA with a procurer.

- c) Upon execution of a PPA between the IPP and the procurer, the provisions of the Sharing Regulations become applicable, and the liability to pay transmission charges shifts to the procurer, to the extent of the contracted quantum of power under the PPA.
- d) The Regulations mandate that an LTA, under Regulation 12 of the 2009 Connectivity Regulations, cannot be granted without a prior grant of connectivity, as stipulated under Regulation 8 of the 2009 Connectivity Regulations. Furthermore, the sharing of transmission charges by the procurer under the Sharing Regulations is contingent upon the existence of a PPA with the IPPs.
- e) As per the 2009 Connectivity Regulations, the grant of connectivity is mandatory for the grant of LTA. In the absence of a PPA between the generator and procurer, Regulation 12(1) of the 2009 Connectivity Regulations becomes operative, requiring the applicant to bear the transmission charges in accordance with the Connectivity Regulations, even if the point of power take-off has not been identified.
- f) The mandate of the regulatory approval regulations applies to the instant HVDC system. The exception under Regulation 3(2) of the 2010 Regulatory Approval Regulations, which exempts ISTS schemes where all beneficiaries have executed BPTAs to share transmission charges, does not apply to the instant HVDC system. Neither the Petitioner nor



CTUIL has produced on record any BPTA executed by the SR beneficiaries for the Raigarh–Pugalur–Thrissur HVDC system.

- g) BPTA, referred to in Regulation 3(2) of the 2010 Regulatory Approval Regulations, governs the sharing of transmission charges among beneficiaries for an identified transmission system under LTA granted by the Petitioner/CTUIL. Such sharing arrangements can only arise after the execution of a PPA between the generator and procurer, specifying the quantum of power to be transferred and referencing the LTA and TSA between the IPP and the Petitioner/CTUIL that identifies the relevant transmission system. In the absence of connectivity granted to TANGEDCO, no LTA can be issued, and consequently, no TSA can exist. Therefore, the BPTA and TSA relied upon by the Petitioner and CTUIL, and referred to by the Commission in its order dated 30.10.2023 in Petition No. 685/TT/2020, are not applicable to the facts of the present case.
- h) The terms and conditions of any agreement entered into under the 2010 Sharing Regulations do not absolve the mandatory provisions of the 2009 Connectivity Regulations, which govern the grant of connectivity. The Petitioner and CTUIL, as the designated nodal agencies, are responsible for granting connectivity under the 2009 Connectivity Regulations, cannot contradict the procedures and mandates established therein. Further, no BPTA has been executed between the SR beneficiaries and the Petitioner for sharing the transmission charges of the Raigarh–Pugalur–



Thrissur HVDC system, as expressly required under Regulation 3(2) of the 2010 Regulatory Approval Regulations.

- i) The 2009 Connectivity Regulations prescribes a Detailed Procedure, which was prepared by the Petitioner and CTUIL and approved by the Central Commission. BPTA and LTA are entered into as per the Detailed Procedure.
- j) The IPPs entered BPTA with the Petitioner / CTUIL, subsequently on the application for LTOA, the Petitioner granted LTA, indicating the transmission system, point of injection, and point of drawl / target region. Based on the PPA entered by the IPPs with the procurer, a TSA is entered into by the IPPs with the Petitioner. Transmission charges are paid by the generator, and the same is reimbursed by the procurer discoms. It is only in the case of power allocation by MoP from CGS stations, that the discoms enter into an LTAA, specifically setting out the details of BPTA, LTA, and PPA. This can be demonstrated through the LTA agreement entered into between TANGEDCO and the Petitioner for availing power from the CGS.
- k) The Model Transmission Agreement of the Central Commission for sharing of transmission charges, approved by the Commission vide order dated 29.4.2011, at paragraph 2.1.3, states that the Interstate Generating Station shall be made a signatory to the TSA if it has not signed the BPTA or TSA. The word “shall” is removed from the Transmission Service Agreement [TSA] dated 5.8.2011. No document is brought on record by



the Petitioner and CTUIL to show that the IPPs have signed the BPTA or TSA in respect of RPT HVDC. In the circumstances, when the Interstate Generating Station is not made a signatory to the TSA, the agreement cannot be relied upon in the facts of the present case.

- l) The Petitioner and CTUIL are not bringing on record the agreement/agreements based on which they are raising transmission charges on IPPs, which are reimbursed by the Respondents. No agreement relating to Raigarh, Pugalur, or Thrissur has been brought on record by the Petitioner or CTUIL.
- m) As per paragraph 4.1.1 of the Model Agreement, ISTS, operated and maintained, means existing lines. RPT HVDC was not in existence on 5.8.2011. As per paragraph 4.2.2 of the Model Agreement, addition or deletion to the existing line as certified by RPC and approved by the Commission shall form part of Schedule II. Schedule II to the agreement is not brought on record by the Petitioner and CTUIL. The incomplete TSA cannot be relied upon. As per paragraph 4.3.2, any element that may be added to ISTS, detailed in 4.1.1 [refers to Schedule II], which provides for existing lines, not new lines.
- n) On the other hand, the Petitioner and CTUIL deliberately suppressed the above BPTA, LTA, and the TSA entered into between the IPPs and the Petitioner for the Raigarh–Dhule HVDC and relied bring on record a BPTA executed by TANGEDCO in the year 2006 for sharing of the transmission charges in respect of the power allocated from the Central



Generating Station relating to existing and under implementation transmission systems as of 2006, under the Central Electricity Regulatory Commission, Open Access Regulations 2004. There were neither the 2009 Connectivity Regulations nor the 2010 Sharing Regulations at that relevant time. This agreement is not relevant to the facts of the case.

- o) The minutes of the 36th meeting of the Southern Regional Standing Committee on Power System Planning, dated 4.9.2013, and the 24th TCC/WRPC meeting held on 9.10.2013, show that the central planners had initially planned the HVDC system in the Western Region for the evacuation of power from IPPs in the Western Region. The transmission charges liability of the IPPs was discussed in detail till they firm up the beneficiaries and sign the PPA. The BPTA, as well as the TSA, were signed by the IPPs in Chhattisgarh for the Raigarh–Dhule transmission asset, and the LTA was also granted. However, due to the non-firming up of IPPs with beneficiaries and planned parallel additional corridors in the Dhule – Nashik - Malegaon area, the target region was changed from the Western region to the Southern region for the quantum associated with the HVDC system planned in Raigarh (Kotra).
- p) Since some of the generators commissioned their generating stations and entered into PPA with beneficiaries of SR, LTA was operationalized for a certain quantum after commissioning of Raichur – Sholapur 765 kV 2 no. SC line for DB Power, Jindal, BALCO, and Ind-Bharat. The LTA was operationalised based on the existing transmission capacity margin as of the date of operationalisation.



- q) At the request of IPPs of Chattisgarh, when they entered into PPAs with procurers in SR, seeking change in target region from WR to SR, Petitioner/CTUIL obtained fresh LTA applications and granted LTA for 1208 MW, taking into consideration the ATC available at that point in time, including the Sholapur – Raichur 765 kV line.
- r) The LTA granted to BALCO dated 1.10.2009 in respect of the HVDC from Raigarh to Dhule was cancelled, and a fresh LTA, subsequent to a change in region, from WR to SR, was granted by the Petitioner on 20.12.2013, specifically identifying the Sholapur-Raichur 765 kV line under the new LTA. This fresh LTA granted by the Petitioner also establishes the fact that the Raigarh-Pugalur-Thrissur HVDC was not required for the transfer of power from WR to SR at the relevant point in time.
- s) When there was a change in the region from WR to SR for terminating the HVDC line, the Petitioner and CTUIL ought to have approached the Commission, intimating the change and ought to have sought a fresh regulatory approval as per the 2010 Regulatory Approval Regulations, which refer to the 2009 Grant of Connectivity Regulations. This regulatory mandate is not complied with.
- t) A special meeting for the operationalisation of LTA/ MTOA to SR was held on 21.5.2014. In this meeting, it was decided to grant full LTA of 1208 MW, subject to the implementation of Solapur-Raichur 765 kV 2 x S/C lines and other identified transmission systems in WR and SR, and



subject to relinquishment of their earlier granted access rights of the same quantum. It is pertinent to note that LTA for WR to SR was entered into by the IPPs to the extent of 1208 MW subject to relinquishment of same quantum from BPTA executed in the High-Capacity Corridor 'V' in which Raigarh – Dhule is one of the transmission system, which later got modified to Raigarh – Pugalur.

- u) From the minutes of the Meeting held on 24.7.2014 about TTC between the New Grid and Southern Region, it is evident that with the commissioning of Sholapur-Raichur 765 kV 2xS/C line, the need for a transmission system for evacuating tied-up power from WR to SR was met.
- v) The 2009 Connectivity Regulations do not permit transmission systems based on surplus in WR and projected deficit in SR without proper connectivity and LTA applications, as stated by the Petitioner. On the other hand, the Regulation requires identification of beneficiaries and PPA for at least 50% of the quantum of LTA applied for by the IPP, prior to the implementation of the transmission system. For the balance capacity (not exceeding 50% of the LTA) for which the exact source and destination could not be firmed up, augmentation for system strengthening further from the target region shall be taken up only after identification of the exact source/destination. None of these mandatory requirements were complied with by the Petitioner/CTUIL.



- w) The Petitioner cannot absolve itself from the mandatory requirement of obtaining regulatory approval and complying with the mandates of the Connectivity Regulations by misleading that the then Hon'ble Chief Minister of Tamil Nadu requested the urgent implementation of the subject transmission system to cater to the power requirements of the State. The fact of the matter is that the ISTS corridor requirement was met after one year of entering into PPA with IPPs on commissioning of the Raichur -Sholapur 765 kV 2xS/C line. Subsequently, no state had any requirement through the subject transmission system.
- x) The subject transmission corridor has been implemented by the Petitioner in violation of the law resulting in huge loss to the public exchequer, the tariff Petition is liable to be dismissed and the Petitioner may be directed to avail 100 % grant from the Central Government to meet the capital investment or maintain it as a regulatory asset.

72. KSEBL, in its reply filed vide separate affidavits dated 29.12.2023 and 20.9.2024 in Petition Nos. 171/TT/2021 and 242/TT/2021, has made the following submissions:

- a) KSEBL filed an appeal against the order dated 29.9.2022 in Petition No. 685/TT/2020 passed by the Commission. The APTEL has also disposed of the said appeal, being Appeal No. 566 of 2023, vide order dated 31.7.2023, on the same terms as the order dated 18.7.2023 in Appeal No. 433 of 2023. Similarly, the APTEL, vide its orders dated 3.10.2023 in Appeal No. 775 of 2023 and Appeal No. 776 of 2023, set



aside the Commission's orders dated 16.2.2023 in Petition No. 242/TT/2021 and dated 22.2.2023 in Petition No. 173/TT/2021, with the same observations as made in its order dated 18.7.2023 in Appeal No. 433 of 2022.

- b) The proposal for the RPT HVDC System was conceptualised for the first time in the 35th meeting of the Standing Committee of the Western Region held on 3.1.2013. Initially , the RPT HVDC System was planned as a +/-600 kV 4000 MW, Raigarh (Kotra)—Dhule HVDC line as the transmission system associated with the evacuation of power from new Independent Power Producer (IPP) projects in Chhattisgarh.
- c) The Chhattisgarh IPPs had not indicated any firm beneficiaries for the power generated from their plants. Considering the power shortage in the Southern Region at that time, the said meeting proposed shifting the converter station at Dhule in the Western Region to any suitable location in the Southern Region.
- d) Thus, the project +/-600 kV, 4000 MW HVDC bipole between Raigarh Pooling Station (near Kotra) to a suitable location in the Southern Region was evolved as the transmission system associated with new TPPs in Chhattisgarh. The said proposal was also considered in the 35th meeting of the Southern Regional Standing Committee on Power System Planning, held on 4.1.2013.



- e) The proposal was subsequently modified in the 37th Standing Committee meeting held on 31.7.2014 as Raigarh (HVDC Stn.) - Pugalur (HVDC Stn.) 6000 MW HVDC bipole, which is further extended to Thrissur as 2000 MW.
- f) Vide letter No 15/9/2013 dated 10.12.2014, the Ministry of Power allocated this scheme for implementation by the Petitioner.
- g) Thereafter, considering the Right of Way (RoW) problems in Kerala and dispersal of power beyond Pugalur, establishment of VSC based 2000 MW HVDC link between Pugalur and North Trichur was proposed which was approved in the Joint meeting of the Standing Committee on Power System Planning of Southern Region and Western Region held on 20.4.2015.
- h) Generally, transmission lines are planned and constructed based on the LTA application submitted by the beneficiaries. However, the RPT HVDC system was not planned based on the LTA application; rather, it was planned in anticipation of setting up huge capacity-generating stations in the State of Chhattisgarh and in anticipation of increased demands in the Southern Region of the country.
- i) During the 42nd SCM meeting held on 27.4.2018, CTUIL confirmed that around 3000 MW of RE could be exported from Pugalur (SR) to Raigarh (WR) through the HVDC corridor.



- j) In the 36th SRPC meeting held on 12.7.2019, the SRPC forum unanimously agreed to take up the matter with MoP for declaration of the assets as 'Strategic and National importance'. Based on the deliberations, the Southern Regional Power Committee, vide letter dated 30.7.2019, addressed to MoP, requested to declare the assets as of Strategic and National importance. SRPC, vide letter dated 2.6.2020 addressed to the Secretary (Power)/ MoP, requested once again to consider the request of the SR constituents.
- k) The power flow in the subject bi-directional HVDC system, as provided by SRPC, clearly established that there is power flow from WR to SR and SR to WR, i.e., the beneficiaries of this system are all the States and regions, and not just the Southern Region. It squarely falls within the concept of 'National Component' as defined under the regulatory regime.
- l) Based on several deliberations, SRPC vide letter dated 7.1.2021, urged the Commission to consider the case of Raigarh-Pugalur-Thrissur HVDC similar to the Biswanith Chariali-Agra HVDC system and include the tariff under National Component.
- m) Considering the importance of this asset for renewable energy integration, the funding from PSDF/ NCEF deserves to be used to reduce the yearly transmission charges for the project. The Petitioner has not made any genuine efforts to



avail of the grant(s), while on the other hand, it has made considerable efforts to seek grant(s) to reduce the transmission charges for the BNC-Agra transmission system. In the case of BNC-Agra, the Petitioner had sought a grant for 50% of the capital cost, whereas in the case of the present transmission system, it has sent letters to the PSDF funding agency seeking a grant of only 15% of the capital cost. The Petitioner be directed to take steps to avail of a grant of capital costs from PSDF/ NCEF, which is at par with the grant availed for the BNC-Agra system.

73. GRIDCO Limited, in its common submissions, vide separate affidavits dated 19.2.2024 in Petition No. 173/TT/2021 and IA No. 91 of 2023 in Petition No. 242/TT/2021, has mainly made the following submissions:

- a) Having a similar nature of transmission assets, the tariffs for Pole II and Pole III should be identical. However, a significant difference is observed in the tariff claimed by the Petitioner. The Petitioner may be directed to elaborate on the details and justify such a difference in tariff. Further, similar treatment for sharing of transmission charges for Pole-II, Pole-III, and Pole-IV, in the manner as Pole-I may be considered and approved by the Commission. From the COD till the third amendment of the 2020 Sharing Regulations comes into existence, the transmission charges for Pole II, Pole III, and Pole IV may be shared in accordance with Regulations 5 and 6 of the 2020 Sharing Regulations.



- b) As per the third amendment, since the instant transmission system, Raigarh-Pugalur HVDC has 50% reverse capacity which is established as per the data of GCIL as indicated in order dated 30.10.2023 in Petition No. 685/TT/2023 (on remand), 50% of the transmission charges of Raigarh-Pugalur HVDC may be shared under the National Component and the balance under the Regional Component. In case the reverse capacity increases from 50% as certified by NLDC, the sharing of the transmission charges corresponding to such reverse capacity shall be under the National Component in terms of the 2020 Sharing Regulations, including amendments thereof.

74. Southern Power Distribution Company of Andhra Pradesh (APSPDCL) vide its affidavit dated 10.3.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021 has made the following submissions:

- a) The subject HVDC system is of national importance, and the transmission tariff for all its elements, including the transmission assets, should be borne on an all-India basis. Accordingly, the transmission tariff for the subject HVDC system should be included under the National Component as per the 2020 Sharing Regulations.
- b) Section 79(1)(c) of the Act stipulates that the Commission has the exclusive power to regulate inter-State transmission of electricity. The jurisdiction to determine the tariff for this inter-State transmission of electricity is also exclusively vested with the Commission under Section 79 (1)(d) of the Act. Section 79(1)(f) of the Act further stipulates that the Commission is empowered to adjudicate upon any disputes involving a



transmission licensee, *inter alia*, with respect to Section 79(1)(c) and (d) of the Act. This Petition involves, *inter alia*, disputes concerning (i) regulation of the subject HVDC system, which is an inter-State transmission system, and (ii) sharing of the transmission tariff of the subject HVDC system. Therefore, the Commission is empowered under the Act to adjudicate the Petition and declare the subject HVDC system to be of national importance. This power is also vested under the 2020 Sharing Regulations. The SoR dated 10.8.2020 to the 2020 Sharing Regulations issued by the Commission stated that the issue relating to the transmission charges of the HVDC system and links having bi-directional flow of power will be decided by the Commission at the relevant time and during appropriate proceedings.

- c) Para 45.17 of the Statement of Reasons of the 3rd Amendment to the 2010 Sharing Regulations provides for the principles regarding the sharing of transmission charges for all HVDC systems.
- d) In the present case, the deliberations and stance of the Regional Standing Committee on Power System Planning and SRPC must be considered by the Commission while determining whether the subject HVDC system is of national importance. Much like the Biswanath Chirali-Agra HVDC System, the subject HVDC System enhances the inter-regional power transfer capacities and further offers to propagate large-scale renewable energy integration.
- d) The scheme of events and recommendations of apex bodies like CTUIL, CEA, etc. led to the change in the subject HVDC system from



unidirectional to bidirectional power flow and the enhancement of its strategic importance as a whole.

- f) In the 35th meeting of the Western Regional Standing Committee on Power System conducted on 3.1.2013, it was proposed to transfer the power and transmission system scheduled to be set up in Chhattisgarh to any suitable location in the Southern Region.
- g) In the 35th meeting of the Southern Regional Standing Committee on Power Systems conducted on 4.1.2013, the stakeholders discussed shifting the converter station related to the subject HVDC transmission system, from Dhule in Western Regional to some suitable location in the Southern Region for meeting the growing demand and projected deficit power as well as to strengthen the link of the Southern Region with the rest of the pan India grid.
- h) In the 36th meeting of the Southern Regional Standing Committee on Power System conducted on 4.9.2013, it was decided that the subject HVDC system, including the HVDC bipole line, would be set up as a system strengthening link. Further, in view of the large deficit and requirement of the transmission system to meet market requirements, the HVDC system should be implemented with a capacity of 6000 MW.
- i) In the joint meeting of the Standing Committee on Power System Planning of the Southern Region and Western Region conducted on 20.4.2015, Respondent No.2/APTRASCO proposed modification in the scope of the subject HVDC system to CEA wherein after the approval of all stakeholders, the following scheme was drawn up for implementation of the said transmission system:



- i) Scheme 1: Raigarh-Pugalur 6000 MW HVDC System
 - ii) Scheme 2: AC System Strengthening at Pugalur end,
 - iii) Scheme 3: Pugalur-Trichur 2000 MW VSC-Based HVDC System
- j) In the 39th meeting of the Southern Regional Standing Committee on Power System conducted on 18.2.2016, the stakeholders confirmed the aforesaid scheme drawn up during the joint meeting.
- k) In the 42nd meeting of the Southern Regional Standing Committee on Power System conducted on 27.4.2018, TANGEDCO insisted that the transmission infrastructure created was redundant/under-utilized due to non-firming up of the generators/target beneficiaries. The intended purpose of the subject HVDC system being developed for the transfer of surplus power from the power plants in Chhattisgarh to the Southern Region was altered due to non-firming up of (i) generation projects in Chhattisgarh and (ii) beneficiaries in the Southern Region.
- l) In the 36th Southern Regional Power Committee meeting held on 12.7.2019, TANGEDCO highlighted the transmission assets and the associated HVDC system and stated that it was envisaged on the basis that the Southern Region is likely to face a power deficit. However, as per the latest projection of CTUIL, the Southern Region was expected to experience surplus power owing to the addition of renewable energy generation. Consequently, TANGEDCO proposed that the transmission assets and the associated HVDC system be utilised for exporting power from the Southern Region to other regions across the country. CTUIL also indicated that this transmission system



can be utilised in both directions. Consequently, the transmission charges for the said system may be shared on an all-India basis. After discussions, all stakeholders agreed that SRPC would approach the Ministry of Power for declaring the subject HVDC Transmission System as a project of national importance.

- m) In line with the 36th SRPC meeting, SRPC issued a letter dated 30.7.2019 to the Secretary, Ministry of Power requesting them to consider (i) declaring the subject HVDC Transmission System as of national and strategic importance; and (ii) sharing of the transmission charges of such system by all regions since beneficiaries of the system will be across the country.
- n) In the 37th and 38th SRPC meetings held on 31.1.2020 and 23.12.2020, all stakeholders decided that they would follow up with the Ministry of Power regarding the subject HVDC system. This meeting was attended by apex technical bodies like CTUIL, PGCIL, CEA, etc.
- o) In the 44th SRPC Meeting held on 4.11.2022, the stakeholders and beneficiaries of the Southern Region reiterated that the subject HVDC System is similar to the Biswanath Chariali – Agra HVDC System, and ought to be treated as a national asset. Notably, during this meeting, CTUIL reiterated its view that since the subject HVDC System is being utilised for bi-directional flow, it can be considered under the National Component of the 2010 Sharing Regulations. Consequently, CTUIL itself suggested that the final order passed by this Commission required reconsideration.



75. During the course of hearing the instant matters on 20.8.2024, it was submitted by the learned counsel for the CTUIL that the stand of CTUIL in the present Petitions is the same as was taken by it in its reply filed in Petition No. 685/TT/2020 (after remand). However, no reply was filed by CTUIL pursuant to remand in these matters.

76. In response to TANGEDCO's replies, the Petitioner, through separate affidavits dated 5.1.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021, has mainly given the following clarifications:

- a) TANGEDCO challenged the Commission's orders dated 22.2.2023 in Petition No. 173/TT/2021 and dated 16.2.2023 in Petition No. 242/TT/2021 in Appeal Nos. 775 of 2023 and 776 of 2023 before the APTEL. In the said Appeals, TANGEDCO did not dispute/challenge the findings of the tariff orders on the issues of prudence check, capital cost, time overrun, and determination of the tariff, which have been decided by the Commission in the tariff orders for the transmission assets set up by the Petitioner. Further, TANGEDCO has also not questioned the Petitioner's entitlement to the transmission tariff. The challenge in the said Appeals was limited to the sharing methodology, not the tariff determined for the transmission assets in the tariff orders.
- b) Appeal Nos. 775 of 2023 and 776 of 2023 filed by TANGEDCO were disposed of by the APTEL vide its order dated 3.10.2023, observing that the issues are covered by its order dated 18.7.2023 in Appeal No. 433 of 2022.



- c) With reference to the averment of TANGEDCO that Raigarh-Pugalur - Thirur HVDC Transmission System was implemented and commissioned without regulatory approval under the 2010 Regulatory Approval Regulations, the Petitioner has submitted that Regulation 3(2) of the 2010 Approval Regulations, shall not apply to the ISTS Scheme for which all the beneficiaries have signed the Bulk Power Transmission Agreement ('BPTA') to share the transmission charges. In the present case, TANGEDCO has signed the BPTA with CTUIL, followed by the Transmission Service Agreement ('TSA') dated 5.8.2011, in accordance with the 2010 Sharing Regulations. Therefore, the 2010 Regulatory Approval Regulations are not applicable in the present case. TANGEDCO participated in several meetings wherein it was discussed that the Raigarh-Pugalur HVDC transmission system was planned for the transmission of power from the Western Region (WR) to the Southern Region (SR), and there has been a discussion on the system strengthening of the said transmission assets.
- d) The said TSA specifically provides that new elements that are identified by CEA and CTUIL will be a part of the Model TSA, and sharing of transmission charges shall be in accordance with the Sharing Regulations in vogue.
- e) The Commission has addressed the issue of the absence of regulatory approval in its order dated 30.10.2023 in Petition No. 685/TT/2020. Further, regulatory approval was not a requirement for the transmission assets, and as such, TANGEDCO erroneously averred that no



regulatory approval had been obtained before implementing the transmission assets.

- f) The MoP letter dated 30.5.2022 recognises that, as per the existing 2020 Sharing Regulations, the transmission charges for HVDC schemes are shared in the ratio of 70% as the Regional Component and 30% as the National Component. The said letter has merely advised the Commission to consider the sharing of transmission charges based on the bi-directional flow of power. In view of the above, from 27.10.2023 to 31.3.2024, the transmission charges should be shared in terms of Regulations 5 and 6 of the 2020 Sharing Regulations as amended by the third amendment. In case, the reverse capacity increases from 50% as certified by NLDC, the sharing of transmission charges corresponding to such reverse capacity shall be under the National Component in terms of the 2020 Sharing Regulations, including amendments thereof.
- g) A perusal of Para 4 of the APTEL's order dated 18.7.2023, it is clear that the issue before the APTEL was limited to the sharing mechanism and not to the other tariff components as determined for the subject transmission line. The APTEL set aside the findings of the tariff order, limited to the issue of sharing and not on any other issue, including the tariff determined by the Commission in the order. No other aspect of the order dated 22.2.2023 was raised or has been considered by the APTEL while remanding the matter back. The issue that this Commission can decide regarding the remand is the sharing methodology of



transmission assets as done by the Commission in its order dated 30.10.2023 in Petition No 685/TT/2020.

- h) TANGEDCO has failed to appreciate that the two lines, i.e., Biswanath-Chariali/ Alipurdwar to Agra HVDC transmission system and Mundra–Mohindergarh 2500 MW HVDC transmission system corresponding to 1005 MW capacity are part of the ‘National Component’ as per the provisions of Regulation 5(3) of the 2020 Sharing Regulations. Further, it may be pertinent to mention that this issue has already been considered and settled by this Commission in its order dated 30.10.2023 in Petition No. 685/TT/2020.
- i) As regards the issue of the PSDF/NCEF grant, tariff determination has to be on the entire capital cost. The adjustment in the capital cost has to be made only when the actual grant is received and is to be given effect in terms of the mandate of the grant.
- j) The Petitioner was serious in its efforts and kept the SR beneficiaries informed of the developments through letters and in various RPC forums. Further, a reminder was also sent to the PSDF Committee by the Petitioner on 8.6.2023. In response to the said reminder, PSDF Committee Member from NLDC vide its letter dated 15.6.2023 informed that the issue of the grant was discussed in the 30th meeting of the Appraisal Committee held on 16.3.2023. The minutes of the Appraisal Committee show that it was decided not to consider this proposal until the directions of the Ministry of Power are received. The matter was being pursued accordingly with MoP.



- k) TANGEDCO, pursuant to remand of the matters, has contested the issues of time overrun and O&M Expenses in its replies, while TANGEDCO did not challenge the same in Appeal Nos. 775 of 2023 and 776 of 2023, were not even considered by the APTEL when deciding the Appeals.

77. In response to the replies of GRIDCO in Petition Nos. 173/TT/2021 and 242/TT/2021, the Petitioner, vide its separate affidavits dated 4.3.2024, has made the following submissions:

- a) The Commission decided on the issue of sharing transmission charges for the HVDC assets in its order dated 30.10.2023 in Petition No. 685/TT/2020, and the same may be made applicable in the present Petitions as well.
- b) Concerning the submissions of GRIDCO, the Petitioner has submitted that Pole-I and Pole-II belong to HVDC bipole-1, whereas Pole-III and Pole-IV belong to HVDC bipole-2 of Raigarh-Pugalur HVDC System Scheme-1. The variation in tariff is due to different capital costs, common equipment, and associated civil work pertaining to HVDC bipole-I viz-civil buildings, 400 kV AC filter banks, control equipment, GIS equipment's standby converter transformers, etc., which are required for the commissioning of Pole-I, have been capitalised in Pole-I, while the balance equipment and associated civil works, etc., which are attributable to Pole-II only have been capitalised in Pole-II. Similarly, common equipment and associated civil works pertaining to HVDC bipole-II, which are required for the commissioning of Pole-III, have been capitalised in Pole-III, while balance equipment and associated



civil works, etc., which are attributable to Pole-IV only, have been capitalised in Pole-IV. The Petitioner has claimed the capital cost of transmission assets based on expenditure incurred, duly certified by the Auditor.

- c) The directions with respect to the sharing mechanism that have been passed in order dated 30.10.2023 in Petition No. 685/TT/2020 may also be applied in the present Petitions as well.

78. In response to the replies of KSEBL in Petition Nos. 173/TT/2021 and 242/TT/2021, the Petitioner, vide its separate affidavits dated 5.1.2024, has mainly made the following submissions:

- a) With reference to the KSEBL's submissions that as per minutes of the WRPC and SRPC held on various dates from 2013 onwards, the Petitioner submitted that the Raigarh – Pugular HVDC was planned to carry the huge generation capacity from Western Region to Southern Region to meet the demand of the Southern States; that by the time the system was operationalised, there was renewable power which was flowing from Southern Region till Raigarh; therefore, there being a bi-directional Power flow, the system ought to be declared asset of national and strategic importance and 100% of transmission charges ought to be included in national component, the Petitioner has relied on the Commission's order dated 30.10.2023 in Petition No. 685/TT/2020. KSEBL has relied upon the SRPC letter dated 7.1.2021, MoP letters dated 18.3.2021 and 30.5.2022, as well as the letter dated 13.12.2021 of the Chairperson of SRPC requesting the assets covered under the subject Petitions to be treated as National Component.



- b) With regard to KSEBL's submissions concerning the 2010 Sharing Regulations, the second amendment to the 2010 Sharing Regulations, the third amendment to the 2010 Sharing Regulations, and the SoR to the 2020 Sharing Regulations, the Petitioner has submitted that the transmission assets achieved their COD after the notified date of the 2020 Sharing Regulations, making the earlier 2010 Sharing Regulations and their amendments irrelevant.
- c) Regarding KSEBL's reference to the Mundra-Mohindergarh HVDC and the Biswanath Chariali-Agra HVDC system, the Petitioner submitted that both matters were resolved under the 2010 Sharing Regulations and were addressed by the Commission in its order dated 30.10.2023 in Petition No. 685/TT/2020. Furthermore, the 2020 Sharing Regulations will govern the method of sharing transmission charges for the transmission assets covered under the present Petitions, and any references to the 2010 Sharing Regulations may no longer be pertinent.
- d) With regard to KSEBL's reliance on the recommendations of various committees, including the Bakshi Committee Report, CTUIL Report, and SRPC suggestions and recommendations on the MOP, the Petitioner has submitted that the Commission amended the 2020 Sharing Regulations to include the method of sharing in the event of bidirectional power flow in any HVDC system. This amendment addresses all the recommendations from statutory authorities, such as the CTUIL, GCIL (previously known as POSOCO), and CEA. The amendment also incorporates the views expressed by the MOP in the



letter dated 30.5.2022, and these issues have been resolved in the order dated 30.10.2023 in Petition No. 685/TT/2020.

- e) Regarding the issue of funding from PSDF/NCEF, the Petitioner has reiterated its submissions made in its rejoinder to TANGEDCO's reply.

79. In response to the additional submissions of TANGEDCO, the Petitioner, by its affidavit dated 2.4.2024 in Petition No.173/TT/2021 and 242/TT/2021, has, inter alia, made submissions regarding billing/invoices based on the original tariff orders. We do not refer to these submissions of the Petitioner here, as the Petitioner did not press IA Nos. 91/2003 and 92/2023 during the course of hearing the matters on 15.12.2023.

80. The Petitioner has, however, made the following submissions:

- i. It is clear from Para 4 of the APTEL's order dated 18.7.2023 that the issue before the APTEL was limited to the mechanism of sharing and not on other tariffs as determined for the assets covered under Petition No. 685 TT 2020.
- ii. In the order dated 30.10.2023 in Petition No. 685/TT/2020, the Annual Fixed Charges, as determined in the original tariff order, remained the same; it was the sharing mechanism, which was only on the treatment of the sharing of the transmission charges, that the Commission directed as under:

S. NO.	PERIOD	SHARING BASIS
1.	Period 6.9.2020 till 31.10.2020	Sharing of transmission charges for the period from 6.9.2020 till 31.10.2020 shall be as per Regulation 11(4) (3)(i) of the 2020 Sharing Regulations, i.e., 10% of charges under Reliability Support charges and 90% to be paid by DICs of the region for whom HVDC has been created.
2.	Period from 1.11.2020 to 26.10.2023 (till the third amendment of the 2020 Sharing Regulations comes into force)	The transmission charges shall be shared in terms of Regulation 5 and Regulation 6 of the 2020 Sharing Regulations. (In the ratio of 70:30, where the Regional Component is 70 % and the National Component is 30%)
3.	Period from the date of effect of the third amendment of the	The transmission charges shall be shared in terms of Regulation 5 and Regulation 6 of the



S. NO.	PERIOD	SHARING BASIS
	2020 Sharing Regulations, i.e., 27.10.2023 till 31.3.2024.	2020 Sharing Regulations 2020 as amended by the third amendment (In the ratio of 50:50). In the case the reverse capacity increases from 50% as certified by NLDC, the sharing of transmission charges corresponding to such reverse capacity shall be under the National Component in terms of the 2020 Sharing Regulations 2020 including amendments thereof.

- a) The Commission's Third Amendment and the formulation of the order dated 30.10.2023 in Petition No. 685/TT/2020 regarding the detailed methodology are in terms of the statutory mandate and after duly considering the APTEL's order dated 18.7.2023. The tariff for the same ought to be paid by the beneficiaries, including TANGEDCO.

No regulatory approval for the Raigarh-Pugalur-Thrissur HVDC system and non-compliance with the regulations.

- b) Concerning regulatory approval for the RPT HVDC System and non-compliance with regulations, the Petitioner has submitted that there is no need to obtain Regulatory Approval under Regulation 3(2) of the 2010 Regulatory Approval Regulations.
- c) TNEB (erstwhile common entity) has signed the BPTA dated 4.3.2006, which provides as under:

"2.0 TRANSMISSION SYSTEM IN SOUTHERN REGION:

2.1 The list of transmission system owned, operated and maintained by POWERGRID in Southern Region is detailed in Annexure-B. The list also incorporates such other lines which are yet to be commissioned and are under execution or to be executed.

2.2 Any transmission line and/ or substation and/ or transformer that may be added to the transmission system detailed in Clause 2.1 of this Agreement and declared for Commercial operation by POWERGRID in Southern Region will be intimated to Bulk Power Beneficiaries/long term transmission Customer by POWERGRID as and when these are declared for Commercial Operation. Such additions shall form a part of this Agreement and shall be governed by the terms and conditions as contained herein.



2.3 Any new asset which is planned for the Southern Region for which the constituents would pay the charges, a prior approval of the concerned constituent(s)/SREB shall be obtained.

.....

9.0 SHARING OF TRANSMISSION CHARGES BY BULK POWER BENEFICIARIES/LONG TERM TRANSMISSION CUSTOMER FOR PAYMENT TO POWERGRID AND BILLING BY POWERGRID

9.1 The total monthly fixed charges determined for the entire transmission system detailed at ANNEXURE-B shall be shared and paid by the Bulk Power Beneficiaries/long term transmission Customer individually to POWERGRID, every month, in accordance with notification issued by a CERC from time to time.

9.2 Other charges such as Incentive/Disincentive, linked with transmission system availability, income-tax, FERV, Cess etc. of POWERGRID shall be as per the notification issued by CERC.

.....

18.0

The Agreement shall be deemed to have come into force with effect from the date of its signing for all other purposes and intents and shall remain operative up to 31.3.2027 subject to its revision as may be made by the parties to this Agreement provided that this Agreement may be mutually extended, renewed or replaced by another Agreement on such terms and for such further period as the parties may mutually agree. In case Bulk Power Beneficiaries/long term transmission Customer continue to get transmission services from the POWERGRID even after expiry of this Agreement without further renewal or formal extension thereof, then all the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced.

.....

Transmission Lines/System in Southern Region (As on_____)

.....

NOTE

Any other transmission system which will be commissioned in SR and declared under commercial operation during the period of this Agreement shall form a part of the transmission system covered under this agreement. However, the transmission tariff for new assets shall be as per clause 8.0 of the Agreement.”

- d) It is undisputed that the transmission assets were implemented after due deliberation, discussion, and approval of all Southern Region beneficiaries in the RPC forum and various planning forums. The Raigarh-Pugalur HVDC System, including the transmission assets, is an inter-regional scheme implemented as a System Strengthening Scheme, which was planned to transmit power from the Western



Region to the Southern Region. TANGEDCO has participated in several meetings where the transmission assets were planned for the transmission of power from the Western Region (WR) to the Southern Region (SR), and there has been discussion on the system strengthening of the transmission assets.

- e) BPTA is not amended every time a system achieves its COD. All DICs agree to recognise any transmission system that achieves COD for the purposes of sharing transmission tariffs. BPTA is never signed system-wise and remains in force for several years, during which additions are made to the ISTS. All DICs agreed that the additions would be recognised when the transmission assets' COD is achieved.
- f) The TSA is also signed only once with all DICs. The TSA with TANGEDCO dated 5.8.2011 provides as under: -

4.0. Description of inter-State Transmission System (ISTS)

4.2 Deemed ISTS

.....

Any additions/ deletions to the existing list as certified by the RPCs and approved by the Commission shall be intimated to the DICs by the Regional Power Committee (RPC). Such modifications shall form part of Schedule II of this Agreement and shall be governed by the terms and conditions contained herein.

.....

4.3 New ISTS Schemes

.....

4.3.2 Any element that may be added to the ISTS detailed in Article 4.1.1 and declared for commercial operation by the concerned ISTS Licensee will be intimated to the DICs by the ISTS Licensee or the CTU, as and when these are declared under commercial operation. Such addition shall form a part of Schedule - II of this Agreement and shall be governed by the terms and conditions as contained herein.

.....

8.0 Sharing of Transmission Charges

8.1 The methodology for PoC charges calculation shall be as per Sharing Regulations, and any subsequent amendment made thereto.

8.2 All the DICs agree to pay the PoC charges as calculated by the Implementing Agency.



8.3 Point of Connection (PoC) Charges for Long Term Access, Medium Term Open Access and Short Term Open Access

8.2.1 There shall be no differentiation in PoC charges, as determined by the Implementing Agency for the Application Period, among the long-term access, medium-term open access and short-term open access to the ISTS.

8.3 Computation of PoC Charges

8.3.1 The computation of PoC charges shall be as per the Sharing Regulations and any subsequent amendment made thereto.”

- g) In light of the aforementioned reasons, it is evident that there was no need to obtain any regulatory approval before the implementation of the transmission assets. The Raigarh-Pugular-Thrichur HVDC asset was a System Strengthening Scheme agreed upon by all the beneficiaries in various planning forums (SCM and RPC). This fact is undisputed and was, in fact, demanded within a compressed timeframe by the then Chief Minister of Tamil Nadu. Therefore, there is no requirement for Regulatory Approval, as the conditions of the BPTA and TSA have been met.
- h) There is no fresh BPTA or TSA required to be signed each time there is an addition to the ISTS. The following are relevant in this regard:
- a) The LTA Agreement is intended for a specific system being set up for the evacuation of power from an identified generator, and not for a system strengthening, which is the current scheme, as the benefits are agreed upon in various RPC meetings.
 - b) The earlier regulatory approval order dated 31.5.2010 in Petition No. 233 of 2009 was for 9 high-capacity transmission corridors planned mainly for various IPPs, and no LTA agreement was signed by beneficiaries. However, the present scheme is a system strengthening scheme planned for the transfer of power



from the Western Region to the Southern Region, considering the load generation scenario at that time, without identifying any specific generator.

- i) On the issue of absence of regulatory approval, the Commission, in its order dated 30.10.2023 in Petition No. 685 of 2020, has, *inter alia*, held as under:

“In light of the above discussions and the provisions of the TSA (Clauses 4.3.1 and 4.3.2 read with Clause 4.1.1) read with the minutes of the meeting of the Standing Committee, SRPC, and the COD letter dated 6.9.2020, we are of the considered view that the instant assets fall under Regulation 3(2) of the 2010 Regulatory Approval Regulations, and the regulatory approval was not a requirement for the said asset.”

“Accordingly, we do not find any anomaly in the planning and execution of the subject transmission assets and accordingly hold that obtaining regulatory approval was not a requirement since all the beneficiaries have agreed to the subject System Strengthening Scheme before various fora and have also signed the BPTA and the TSA.”

- j) According to the Petitioner, regulatory approval was not a requirement for the transmission assets, and TANGEDCO erroneously alleged that no regulatory approval had been obtained before implementing the transmission assets. The said submissions of TANGEDCO ought to be dismissed.
- k) TANGEDCO’s contention that the word ‘shall’ is removed from the TSA dated 5.8.2011, and the Petitioner and CTUIL have brought no document on record showing that the IPPs have signed BPTA or TSA in respect of RPT HVDC, the Petitioner has submitted that there are certain typographical errors in the present TSA dated 5.8.2011, which have been blown out of proportion. It may be noted that TANGEDCO has also signed the TSA in question and is bound by the same.



LTA was operationalised for a certain quantum after the commissioning of Raichur-Sholapur 765 kV 2 nos. SC line for DB Power, Jindal, BALCO, and Ind-Bharat. The LTA was operationalised based on the existing transmission capacity margin as on the date of operationalisation

- a) The transmission assets were planned during the 2014–15 timeframe to meet the power requirements of the Southern Region, which was experiencing a power deficit. The planning and approval of these transmission assets were achieved following discussions and deliberations in various planning forums in both the Southern and Western Regions, in which TANGEDCO actively participated. In view of various minutes of meetings from the SRPC and SCM forums recorded by the Petitioner, TANGEDCO cannot claim that the present assets were unnecessary for power transfer from WR to SR.
- b) TANGEDCO, as a participant in various planning forum meetings, should have pointed out the same in the meetings. TANGEDCO cannot now, in the remand proceedings of the tariff Petitions, raise an issue on the requirement of transmission assets, especially when the power flow data submitted by GCIL in Petition No. 685/TT/2020 has demonstrated that the transmission assets have been fully utilised.
- c) The Raigarh-Pugular HVDC System, including the transmission assets, was planned after following the requisite statutory mandate and after detailed deliberations with the Southern Beneficiaries, including TANGEDCO. It was only after discussions and deliberations in SCM and RPC forums that all three schemes were envisaged and taken up for implementation. The three separate schemes were envisaged as each of the Schemes caters to a particular requirement. TANGEDCO is liable to make payments of



the tariff for usage of the subject assets in terms of the tariff order and the Regulations, and at this stage cannot make irresponsible submissions that the Petitioner has caused a huge loss to the public exchequer and unnecessary financial burden to the end consumers. TANGEDCO is, however, gainfully and continuously using the subject assets.

81. In response to the reply of Eastern Power Distribution Company of Andhra Pradesh Limited and Southern Power Distribution Company of Andhra Pradesh (AP Discoms), the Petitioner vide affidavit dated 2.4.2024 has made the following submissions in Petition Nos. 173/TT/2021 and 242/TT/2024:

- a) Neither the Biswanath-Chariali nor the Mundra-Mohindergarh cases are comparable to the transmission assets of the present case. Biswanath Chariali-Alipurduar-Agra HVDC line and Mundra Mohindergarh HVDC transmission were decided during the 2010 Sharing Regulations, which provided for a slightly different regulatory regime.
- b) There are also several other HVDCs for which the sharing of transmission charges has been done in accordance with the 2020 Sharing Regulations, that is, 70% of transmission charges as a Regional Component and 30% of transmission charges as a National Component. Therefore, there cannot be a blanket provision or adjudication since other HVDC lines in the past have been declared under National Importance in terms of the 2020 Sharing Regulations. During the hearing in Petition No. 685/TT/2020, the reply filed by POSOCO (GCIL) evinced that around 98.5% of the time, the power flow is from WR to SR for the current period 2023-24. The Commission, while



passing the order dated 30.10.2023 in Petition No. 685/TT/2020, has adhered to the statutory mandate of the Tariff Regulations and the Sharing Regulations and in terms of the parent statute, i.e., the Electricity Act, 2003.

- c) The subject HVDC asset was discussed and agreed to in various meetings of the Standing Committee on Power System Planning of SR & WR, as well as in SRPC & WRPC, in which all the SR beneficiaries, including AP Discoms, were part of those meetings. The Commission, while passing the order dated 30.10.2023 in Petition No. 685/TT/2020, has categorically noted that the SR beneficiaries have agreed to the implementation of the Raigarh-Pugalur Transmission System. Further, the APTEL has not directed the Commission to declare the transmission assets as National Component and remanded the matter for consideration and deliberation after consulting with CTUIL, POSOCO, and CEA, and considering the letter dated 30.5.2022. In an order dated 30.10.2023 in Petition No. 685/TT/2020, the Commission has duly considered each and every aspect, such as power flow data, the usage by the SR beneficiaries, the issue of 'power flow' in forward and backward direction, etc, provided by the entities and has accordingly passed the detailed order.

82. The Petitioner, in its short reply to the additional submissions of KSEBL dated 20.9.2024 in Petition No. 173/TT/2021, has reiterated the submissions made by it in its various affidavits. However, the Petitioner in its present reply has made the following additional submissions:



- a) KSEB has not even filed an independent appeal challenging the tariff orders in Petition Nos. 173/TT/2021 and 242/TT/2021. At the maximum, the present remand proceedings can be proceeded in terms of the order dated 18.7.2023 in Appeal No. 433 of 2022 which was a limited remand considering the scope that the remand was specific to the sharing mechanism for the transmission assets, and also what has been decided by this Commission in the order dated 30.10.2023 in Petition No. 685/TT/2020.
- b) On the issue of PSDF/NCEF, the Petitioner has submitted that the development after January 2024 is that on 6.5.2024, a meeting was convened under the Chairmanship of the Joint Secretary (Trans.), MoP to discuss the provision of funds for the Raigarh-Pugalur-Trichur project. During the said meeting, the Petitioner apprised MoP regarding the PSDF/MoP grant applied for the Raigarh-Pugalur-Trichur Transmission System and requested MoP to expedite the release of the grant.
- c) Further, recently on 29.8.2024, a meeting was held under the Chairmanship of the Additional Secretary (Trans.), MoP to discuss the possibility of 100% reverse power flow from Pugalur to Raigarh. During the meeting, CEA apprised MoP regarding the PSDF grant applied for the Raigarh-Pugalur-Trichur Transmission System. The Petitioner apprised the members regarding the directions of the Commission concerning obtaining a grant from the PSDF fund.

83. The Petitioner, in its common additional affidavit dated 30.7.2024, has made submissions regarding the recovery of the tariff. We are not referring to the same in view of the fact that during the hearing of the matters on 15.12.2023, the Petitioner



did not press for IA Nos. 91/2023 and 92/2003, which were filed for the unilateral deductions/adjustment transmission tariff.

84. TANGEDCO in its written submissions dated 13.9.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021 has mainly made the following submissions:

- a) The 2010 Regulatory Approval Regulations mandate regulatory approval for ISTS schemes for which PPAs with all the beneficiaries have not been signed on the date of application and for system strengthening / up-gradation, identified by the Central Transmission Utility.
- b) The Petitioner obtained Regulatory Approval for the ± 600 kV, 4000 MW HVDC system between Raigarh and Dhule as per the order dated 31.5.2010 in Petition No. 233 of 2009.
- c) Proviso to Regulation 6(1) of the 2010 Regulatory Approval Regulations mandates that if there is any minor variation in the regulatory approval granted by the Central Commission, it must be intimated to the Commission and stated in the tariff Petition. This requirement was not complied with by the Petitioner.
- d) The CTUIL and the Petitioner ought to have identified IPPs with firm beneficiaries in SR prior to shifting the termination point of HVDC from Dhule to Pugalur and should have secured fresh regulatory approval under Regulation 6 of the 2010 Regulatory Approval Regulations. The Petitioner has failed to



comply with Regulation 6 of the 2010 Regulatory Approval Regulations.

- e) When significant changes occurred, such as the change of region from WR to SR for terminating the HVDC line, the alteration of the rating from 600 kV to 800 kV, and the modification of capacity from 4000 MW to 6000 MW, the Petitioner and CTUIL should have approached the Commission to obtain fresh approval in accordance with the proviso to Regulation 6 (1) r/w 6 (2) of the 2010 Regulatory Approval Regulations, which refers to the 2009 Connectivity Regulations.
- f) The 2009 Connectivity Regulations apply to the HVDC system in question. According to the 2009 Connectivity Regulations, the IPPs enter into a BPTA with CTUIL and subsequently apply for Long-Term Open Access (LTOA), specifying the target region. CTUIL grants open access to the IPPs, detailing the transmission system, point of injection, and point of drawl. In this case, in the target region, no beneficiary was identified by the IPPs of Chhattisgarh.
- g) Once the PPA is entered into by the IPPs with the procurer/beneficiary, it is then communicated to PGCIL/CTUIL for the granting of LTA concerning the identified procurer under the PPA, along with a copy of the PPA. This LTA, granted by PGCIL/CTUIL after the generator has entered into the PPA, specifies the procurer and the region where the procurer is



located, the quantum of power under the PPA, and the details of the identified transmission system in Annexure-1 to the LTA grant. Upon the granting of LTA by PGCIL/CTUIL, the generator enters into a Long-Term Access Agreement with PGCIL/CTUIL. Under this agreement, the generator agrees to pay all applicable transmission charges of the existing transmission system from the commencement date of Long-Term Access, following the sharing mechanism determined by the Central Commission.

- h) The only difference between CGS and IPP power is that the LTA Agreement is between the procurer and PGCIL/CTUIL, with transmission charges being paid by the procurer under the LTA. In the case of IPPs, according to the PPA, the generator enters into a Transmission Service Agreement with the PGCIL/CTUIL. Transmission charges are paid by the IPPs to PGCIL/CTUIL, and this amount is reimbursed by the procurer under the PPA.
- i) Regulation 3(2) of the 2010 Regulatory Approval Regulations mandates that all beneficiaries must have signed the BPTA for the sharing of transmission charges for the identified transmission scheme.
- j) For the Raigarh-Dhule HVDC system, the IPPs in Chhattisgarh have entered into BPTA and executed BGs with PGCIL/CTUIL. LTA has also been granted by PGCIL/CTUIL, and a TSA has been entered into between the IPPs and



PGCIL/CTUIL for the evacuation of power to the beneficiaries in WR/NR.

- k) Regulation 3(2) of the 2010 Regulatory Approval Regulations requires a BPTA to be signed by all beneficiaries. The order of the Commission, which was set aside and remitted, does not contain the word “all” in the quoted Regulation 3(2) of the 2010 Regulatory Approval Regulations to rely upon the BPTA of 2006, signed only by the Tamil Nadu Electricity Board.
- l) The Petition is silent regarding the Raigarh-Pugalur-Trissur HVDC system; no Southern Regional beneficiaries have entered into any BPTA with the PGCIL/CTUIL, in accordance with the 2009 Connectivity Regulations.
- m) The Petitioner approached the Asian Development Bank for a loan by submitting a project report, presenting the Raigarh-Pugalur-Trissur HVDC line as a Renewable Energy Corridor, and secured the loan. If the loan for the HVDC line is granted based on a project report identifying it as an RE corridor, the HVDC system should be regarded as a National Component according to the 2020 Sharing Regulations.
- n) The Commission, through the 3rd amendment to the 2010 Sharing Regulations (Treatment of HVDC), stated that the HVDC system also assists in controlling voltages and power flow in inter-regional lines. Consequently, some benefits accrue to all DICs by virtue of the HVDC system. Accordingly, 10% of the charges will be recovered through Reliability



Support Charges from all DICs, while the remaining amount shall be payable by the DICs of the Region for which it was created.

- o) For any new HVDC line, the Commission shall determine the methodology through an order. However, the principle of sharing transmission charges for HVDC lines may be reassessed based on national transmission planning if certain HVDC systems are intended to serve multiple needs.
- p) In the third amendment to the 2010 Sharing Regulations, the Commission had changed the treatment of Mundra-Mohindergarh HVDC from a Regional asset to a National asset without any justification.
- q) In accordance with the provision in the SoR of the 3rd Amendment to the 2010 Sharing Regulations, which empowered the Commission to determine the sharing methodology for new HVDC lines, the Commission decided on the allocation of transmission charges for the ± 800 kv Biswanath Chariali - Agra HVDC system as part of the national component in its order dated 8.1.2016 in Petition No.67/TT/2015, designating it as an asset of national and strategic importance.
- r) The Biswanath Chariali-Agra HVDC system evolved as part of the associated transmission system and inter-regional system for the evacuation of Hydro Electric Plants (HEPs) in the North Eastern Region (NER). When the associated transmission



system was completed and the HEPs faced undue delays, the commission suo-moto declared it as an asset of national and strategic importance and ordered that the transmission charges be shared on an all-India basis. Subsequently, the Ministry of Power (MoP), in a letter dated 10.3.2017, declared these assets as a scheme of national importance.

- s) The 2020 Sharing Regulations were in force till 31.10.2020. The Commission notified the 2020 Sharing Regulations, which came into force on 1.11.2020. The 2020 Sharing Regulations diluted the usage-based methodology and socialised the redundant assets under the balance component under the uniform charges method.
- t) In the 2020 Sharing Regulations, 100% of the transmission charges for the Biswanath-Chariali-Agra and part of the capacity of the Mundra-Mohindergarh HVDC systems have been retained under the national component. For other HVDC systems, 30% of the charges are shared under the national component and 70% under the regional component.
- u) The Third Amendment does not apply to all Inter-Regional HVDC systems. The Biswanath Chariali – Agra and Mundra—Mohindergarh HVDC systems are excluded from this regulation, which is arbitrary and discriminatory.

85. TANGEDCO has submitted that the following issues need to be decided, which have not been considered in the Commission's order dated 30.10.2023:



- a) According to the 2009 Connectivity Regulations, a fresh application and BPTA are required to be submitted by the generator for the HVDC, indicating the amount of LTOA granted by the Power Grid to the generator for power transfer to SR. No document has been submitted by the Petitioner in this Petition. Therefore, the approved injection of the generator remains unchanged at the pooling station in Chhattisgarh, and the change pertains to the target region, as outlined by the Regulations, which is not on record.
- b) There is no PPA with any of the generators in Chhattisgarh, with LTOA identifying the current HVDC as required under the Connectivity Regulations and Detailed Procedure. The entire HVDC system must be considered as a single transmission system for 6000 MW.
- c) The TSA referenced by the Petitioner falls under the Sharing Regulations once the procurer executes the PPA. The provisions of the TSA pertain to the lines mentioned within the TSA and do not extend to any new lines. They solely refer to the addition of lines to the transmission system identified in the TSA.
- d) The BPTA referred to and relied upon by the Petitioner relates to transmission lines indicated in the annexure to the BPTA and to lines that will be an addition to the existing lines under the BPTA annexure in SR. The BPTA is not for inter-regional lines.
- e) TANGEDCO has requested that the Commission consider the above submissions and declare the Raigarh-Pugalur-Trissur (R-P-T) HVDC transmission system as assets of national and strategic importance.



Additionally, TANGEDCO seeks to have the transmission charges shared under the National Component and for the Petitioner to receive a 100% grant from the PSDF or the Government of India, thereby ensuring that there is no tariff burden on the DISCOMs.

86. The Petitioner, in its written submissions dated 20.9.2024 in Petition Nos. 173/TT/2021 and 242/TT/2021 has mainly made the following submissions:

- a) Regarding TANGEDCO's contentions about the Petitioner's failure to comply with the regulatory approval, the non-compliance with Regulation 6(1) of the 2010 Regulatory Approval Regulations, and the adherence to the 2009 Connectivity Regulations, which require the identification of beneficiaries and PPAs for at least 50% of the LTA applied for by IPPs prior to implementing transmission systems, the Petitioner has relied on the observations made on these issues in the Commission's order dated 30.10.2023 in Petition No. 685/TT/2020. The Petitioner has, however, stated that the decision to change the endpoint to Pugalur was made during the 35th meeting of the Standing Committee on Power System Planning in the Western Region, held on 3.1.2013, which included the representative of TANGEDCO. The Petitioner has further submitted that for any system strengthening scheme, there is never an identification of beneficiaries. Therefore, there is no violation of any regulations as alleged by TANGEDCO.

The present scheme is a System Strengthening Scheme



agreed upon by all beneficiaries during various meetings and has not been implemented in accordance with any LTA application; thus, compliance with the 2009 Connectivity Regulations is not required. Furthermore, Regulation 3(2) of the 2010 Regulatory Approval Regulations applies to the current scheme.

- b) BPTA was never signed system-wise and remained in force for several years, during which there were additions made to the ISTS. All DICs agreed that the additions would be recognised as and when the COD of the assets was achieved.
- c) The TSA is signed only once with all DICs. Additionally, there is no new BPTA or TSA that needs to be signed each time there is an addition to the ISTS.
- d) With regard to the averment that the Petitioner approached the Asian Development Bank for a loan by submitting the project report as RPT HVDC line as a Renewable Energy Corridor and subsequently obtained the loan, it is submitted that there is no mandate stipulating that if part of any project is to be utilised as an RE corridor, the entire HVDC system should be regarded as a “national component” under the 2020 Sharing Regulations. The manner of funding a transmission asset does not determine whether it should be classified as a national component or a regional component.



- e) Regarding regulatory changes during the phase of implementation of the project, eligibility of regulations for tariff and unenforceability of the third amendment to the 2020 Sharing Regulations, the Petitioner has placed reliance on the Commission's order dated 30.10.2023 in Petition No. 685/TT/2020.
- f) Both the TSA and BPTA were produced by the Petitioner in remand in Petition No. 685/TT/2020 while the matter was being heard and the same is recorded by the Commission in its order dated 30.10.2023 in Petition No. 685/TT/2020.
- g) Regarding the violation of the 2009 Connectivity Regulations by the Petitioner and the HVDC system being developed for generators when the system was terminating in the WR and the Petitioner failed to get a fresh BPTA executed with the generators when the target region changed from WR to SR, the Petitioner has stated that it was a system strengthening scheme primarily to give strong connectivity between the SR and WR region for power needs of Southern Region States which were facing acute power shortages. TANGEDCO demanded the system in a compressed time frame, and all other SR beneficiaries agreed that only the Petitioner has the requisite expertise to implement the system.
- h) When the termination point was changed from Dhule in WR to Pugalur in SR, it was due to the request of SR beneficiaries and not a unilateral decision, as sought to be projected by



TANGEDCO and the same is recorded in the 35th meeting of the Standing Committee on Power System Planning in the Western Region held on 3.1.2013.

- i) Regarding the signing of a BPTA or TSA with long-term beneficiaries/DICs, both are signed as a one-time event, and any new system agreed upon in the RPC forums is added as and when it is declared under commercial operation. Clearly, no DIC or Discom will apply for connectivity or open access as far as system strengthening schemes are concerned.
- j) With regard to the Commission's directions to the Petitioner to approach PSDF Committee/MoP for allocation of any grant for the project, as stated in the order dated 30.10.2023 in Petition No. 685/TT/2020, the Petitioner followed up with MoP/PSDF Committee, resulting in meetings held on 6.5.2024 and 29.8.2024.

Analysis and Decision

87. We have considered the submissions of the parties and have perused the record, including the APTEL's remand order.

88. The Commission, vide order dated 30.10.2023 in Petition No. 685/TT/2020 (remand matter), had already dealt with the issues raised by TANGEDCO, KSEBL, GRIDCO, APSPDCL, and APEPDCL. We first deal with the common issues, which are part of Petition No. 685/TT/2020, 173/TT/2021, and 242/TT/2021. The following issues are common in the instant remand matters pertaining to Petition Nos. 173/TT/2021 and 242/TT/2021.



Issue No.1: Whether regulatory approval for the transmission assets was a mandatory requirement as per the 2010 Approval Regulations? If so, what should be its treatment?

Issue No.2: How do the cases of Biswanath-Chariali/Alipurduwar-Agra and Mundra -Mohindergarh HVDC be compared with the transmission assets of the present case?

Issue No.3: How should the sharing of transmission charges be handled for the transmission assets from their declared COD?

Issue No.4: What is the status of funding for the transmission assets of the present case from PSDF/NCEF?

The above are dealt with in subsequent paragraphs.

Issue No.1: Whether regulatory approval for the transmission assets was a mandatory requirement as per the 2010 Approval Regulations? If so, what should be its treatment?

89. TANGEDCO contends that the Petitioner's current tariff petitions should have included details of the regulatory approval obtained from the Central Electricity Regulatory Commission, as mandated under the 2010 Regulatory Approval Regulations. It is further contended that the Petitioner failed to secure fresh regulatory approval in compliance with Regulation 6 of the 2010 Regulatory Approval Regulations due to a change in the target region and scope of the scheme. When the region changed from WR to SR for terminating the HVDC line, the Petitioner and CTUIL ought to have approached the Commission to inform them of the change and should have sought fresh approval according to the proviso to Regulation 6 (1) read with 6 (2) of the 2010 Regulatory Approval Regulations, which refers to the 2009 Connectivity Regulations. According to TANGEDCO, a tariff cannot be granted in the absence of compliance with the 2010 Regulatory Approval Regulations. In support of this contention, TANGEDCO has relied on the observations made by the Hon'ble Supreme Court in the matter of PTC India Ltd v.



CERC and Ors [(2010) 4 SCC 603], which mandates that once regulations are framed by the Commission, CTU is bound to follow the same, and the Central Commission is required to ensure that these regulations are followed in both letter and spirit. Under these circumstances, granting a tariff without any regulatory approval would be unlawful.

90. The Petitioner has contended that Regulation 3(2) of the 2010 Regulatory Approval Regulations stipulates that the 2010 Regulatory Approval Regulations shall not apply to the ISTS Scheme, for which all the beneficiaries have signed the Bulk Power Transmission Agreement (“BPTA”) to share the transmission charges. In the present case, TANGEDCO has signed the BPTA with CTUIL and subsequently the Transmission Service Agreement (“TSA”) dated 5.8.2011 in accordance with the 2010 Sharing Regulations. In the present case, a BPTA is in place, and later the TSA was signed. Therefore, the 2010 Regulatory Approval Regulations do not apply in the present case. The Petitioner further contended that the Raigarh-Pugalur HVDC System, including the subject assets, is an inter-regional scheme implemented as a system strengthening scheme, which was planned to transmit power from the Western Region to the Southern Region. TANGEDCO has participated in several meetings where the subject assets were planned for the transmission of power from the Western Region (WR) to the Southern Region (SR), and discussions regarding the system strengthening of the said assets have taken place.

91. It is pertinent to mention that the Commission, in its order dated 30.10.2023 in Petition No. 685/TT/2020 (on remand), has already dealt with this issue at length. Before making any specific observation on this issue, we advert to the relevant excerpts of the said order, which are as follows:



"Issue No.1: Whether regulatory approval for the instant asset was a requirement as per the 2010 Regulatory Approval Regulations and its treatment thereof?"

.....
74. We have considered the submissions of the Petitioner and the Respondents. The 2010 Regulatory Approval Regulations provide as follows:

"3. Scope and applicability

(1) These regulations shall apply to

(i) An ISTS scheme proposed by Central Transmission Utility for which generators have sought long term access as per the Central Electricity Regulatory Commission(Grant of Connectivity, Long- Term Access and Medium Term Open Access to the Inter-State Transmission and Related matters)Regulations, 2009 and for which consultation with Central Electricity Authority and beneficiaries if already identified has been held for setting up the ISTS scheme, but for which Power purchase agreement with all the beneficiaries have not been signed on the date of application.

(ii) An ISTS scheme for system strengthening / up-gradation, identified by Central Transmission Utility to enable reliable, efficient, coordinated and economical flow of electricity within and across the Region for which consultation with Central Electricity Authority and beneficiaries if identified has been held.

(iii) ISTS scheme proposed by CTU for which the Central Government authorised solar power park developer has sought long term access, and for which consultation with CEA and beneficiaries wherever identified has been held for setting up the ISTS scheme and the solar power park developer undertakes to bear all liabilities on behalf of the solar power generators to be set up in the solar park.

(2) These Regulations shall not apply to ISTS scheme for which all the beneficiaries / respective STUs have signed Bulk power transmission agreement to share the transmission charges.

(3) Procedure for Filing of Application

(1) The Central Transmission Utility may file application before the Commission for regulatory approval of identified ISTS Scheme along with Project Inception Report.
....."

As per the above, regulatory approval is not applicable for the ISTS schemes where the beneficiaries have signed the BPTA to share the transmission charges as provided under Regulation 3(2) of the 2010 Regulatory Approval Regulations.

.....
75. In this regard the relevant extracts of the BPTA dated 4.3.2006 signed between the Petitioner and the Tamil Nadu Electricity Board (TNEB), the predecessor of TANGEDCO are as follows:

"2.0 TRANSMISSION SYSTEM IN SOUTHERN REGION

2.1 The list of transmission system owned, operated and maintained by POWERGRID in Southern Region is detailed in Annexure-B. The list also



incorporates such other lines which are yet to be commissioned and are under execution or to be executed.

2.2 Any transmission line and/ or substation and/ or transformer that may be added to the transmission system detailed in Clause 2.1 of this Agreement and declared for Commercial operation by POWERGRID in Southern Region will be intimated to Bulk Power Beneficiaries/long term transmission Customer by POWERGRID as and when these are declared for Commercial Operation. Such additions shall form a part of this Agreement and shall be governed by the terms and conditions as contained herein.

2.3 POWERGRID shall duly intimate the Bulk Power Beneficiary/ Long term Transmission Customer regarding all changes in transmission system, asset ownership, commissioning and commercial operation of new assets and any other relevant development/changes. Necessary documents, drawings, cost estimates etc. shall be furnished by POWERGRID for examination by constituents. Any new asset which is planned for the Southern Region for which the constituents would pay the charges, a prior approval of the concerned constituent(s)/SREB shall be obtained.

8.0 TARIFF

8.1 The Transmission tariff and terms and conditions for the Power to be transmitted by POWERGRID from Central Sector Power Station(s) shall be as per the norms notified and the tariff Notification issued by CERC and as amended from time to time.

9.0 SHARING OF TRANSMISSION CHARGES BY BULK POWER BENEFICIARIES/LONG TERM TRANSMISSION CUSTOMER FOR PAYMENT TO POWERGRID AND BILLING BY POWERGRID

9.1 The total monthly fixed charges determined for the entire transmission system detailed at ANNEXURE-B shall be shared and paid by the Bulk Power Beneficiaries/ long term transmission Customer individually to POWERGRID, every month, in accordance with notification issued by CERC from time to time.

18.0 EFFECTIVE DATE AND DURATION OF AGREEMENT

18.1 The Agreement shall be deemed to have come into force with effect from the date of its signing for all other purposes and intents and shall remain operative up to 31.3.2027 subject to its revision as may be made by the parties to this Agreement provided that this Agreement may be mutually extended, renewed or replaced by another Agreement on such terms and for such further period as the parties may mutually agree. In case Bulk Power Beneficiaries/long term transmission Customer continue to get transmission services from the POWERGRID even after expiry of this Agreement without further renewal or formal extension thereof, then all the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced.”

76. Further, the Note to the Annexure B of the BPTA dated 4.3.2006 states as follows:

“Note

Any other transmission system which will be commissioned in SR and declared under commercial operation during the period of this Agreement shall form a part of transmission system covered under this agreement.



However, the transmission tariff for new assets shall be as per clause 8.0 of the Agreement.”

77. Subsequently, under the 2010 Sharing Regulations, Model TSA was notified along with the said regulations, which have been signed by various DICs. The said TSA provides at Recital D as follows:

“D. The development of an ISTS Scheme including any scheme which is under construction would continue to be governed in accordance with the Indemnification Agreement or Bulk Power Transmission Agreement or Transmission Service Agreement or any such agreement, as entered into between the concerned ISTS Licensee and the concerned DIC (s) (erstwhile beneficiary) to the extent relevant to the development, construction and commissioning of the elements referred therein till such time the said element is for commercial operation and actually brought into the operations, post which the terms and conditions of this TSA would come into force;”

As per the above, the BPTA stands replaced by the TSA after an element is declared under commercial operation and actually brought into operation.

78. We have perused TSA dated 5.8.2011 which provides as follows:

“4.0. Description of inter-State Transmission System (ISTS)

4.1. Existing ISTS

4.1.1. The list of ISTS presently owned, operated and maintained by ISTS Licensees in the country is detailed in Schedule - II.

...

4.3 New ISTS Schemes

4.3.1. New ISTS Schemes shall be as identified in consultation with the stakeholders, by CEA and CTU.

4.3.2 Any element that may be added to the ISTS detailed in Article 4.1.1 and declared for commercial operation by the concerned ISTS Licensee will be intimated to the DICs by the ISTS Licensee or the CTU, as and when these are declared under commercial operation. Such addition shall form a part of Schedule - II of this Agreement and shall be governed by the terms and conditions as contained herein.

As per the above, any element that has been identified by CEA and CTU, in consultation with stakeholders and is declared for commercial operation by the concerned ISTS Licensee will be intimated to the DICs by the ISTS Licensee as and when these are declared under commercial operation and such addition shall form a part of Schedule – II of the TSA and shall be governed by the terms and conditions as contained herein.

79. In this regard, we have perused minutes of the 37th Standing Committee Meeting on Power System Planning in the Southern Region, held on 31.7.2014, conducted by CEA and CTU and attended by SR constituents. The relevant portion of the minutes is quoted as follows:

“5. System for increasing capacity of Inter-State Transmission system for import of power into SR up to 2018-19.

.....

5.3 Accordingly, the following transmission schemes were put up for discussion in the



meeting:

...

B. Scheme-II: HVDC Bipole link between Western region (Chhattisgarh) and Southern region (Tamil Nadu)

- (i) Raigarh(HVDC Stn) – Pugalur (HVDC Stn) 6000 MW HVDC bipole
- (ii) Establishment of Raigarh HVDC Stn and Pugalur HVDC Stn with 6000 MW HVDC terminals (with alternate of having 3000 MW in first phase)
- (iii) Raigarh HVDC Station – Raigarh(Existing) 400kV (quad) 2xD/c lines (or with bay extension)
- (iv) Pugalur HVDC Station – Pugalur (Existing) 400kV (quad) D/c line.
- (v) Pugalur HVDC Station – Arasur 400kV (quad) D/c line with 80 MVAR switchable line reactor at Arasur end.
- (vi) Pugalur HVDC Station – Thiruvalam 400kV (quad) D/c line with 80 MVAR switchable line reactor at both ends.
- (vii) Pugalur HVDC Station – Edayarpalayam 400 kV (quad) D/c line with 63 MVAR switchable line reactor at Edayarpalayam end.
- (viii) Edayarpalayam – Udumulpeta 400 kV (quad) D/c line.
- (ix) Establishment of 400/220kV substation with 2x500 MVA transformers at Edayarpalayam and 2x125 MVAR bus reactors.

.....

5.6 TSTRANSCO and TANGEDCO suggested that the Raigarh-Pugalur HVDC may be implemented by POWERGRID due to urgent need of power transfer to SR.

....

5.12 Based on the above discussions, it was agreed to have a 6000 MW HVDC link from Raigarh, Chhattisgarh to Southern Region. Regarding building this link as a multi terminal HVDC, with one inverter station of 4000 MW at Pugalur and another inverter station of 2000 MW capacity at Madakkathara in Kerala, it was decided that the same would be explored and finalized in next meeting of SCPSP.”

80. Further, we have perused minutes of the meeting of 26th meeting of SRPC held on 20.12.2014. The relevant extracts of the minutes of the 26th SRPC meeting are as follows:

“

3.3.3 WR-SR 6000 MW HVDC Bipole Link [Raigarh (Chhattisgarh) -Pugalur/Trichur (TN/KER)]

Transmission Element	Imple- menting Agency	Line length (ckm)/ MVA Capacity	COD		Constraints/ Remarks
			Sch.	Ant / Act	
WR-SR HVDC Bipole Link [Raigarh (Chhattisgarh) - Pugalur (Tamil Nadu)]	PGCIL				The scheme was originally designed for import of 4000 MW and put up before SCPSPSR- 36 for approval. However, to cater to the huge import
Raigarh (existing) - Raigarh (HVDC Stn) –400 kV 2xD/C (quad) lines					
6000 MW, HVDC Terminal Station at Raigarh		6000			



6000 MW, HVDC terminal Station at Pugalur (or alternatively (i) with 4000 MW HVDC terminal, and (ii) 2000 MW HVDC terminal at Madakathara, and inter-connection with existing 400 kV AC Substation at Madakathara.		6000			requirement of power, the Committee suggested that studies for a 6000 MW capacity and additional strengthening be carried out and put up for discussion in the next Standing Committee (37 th) meeting.
Raigarh (HVDC Stn) - Pugalur(HVDC Stn) 6000 MW, +/- 800 kV HVDC bipole.					Accordingly, the scheme has been modified and discussed in SCPSPSR-37, when KSEB requested to construct this link as a multi-terminal HVDC with one Inverter station of 4000 MW at Pugalur and another Inverter station of 2000 MW capacity at Madakathara in Kerala by extending the same HVDC up to Madakathara to enable it to import power from outside.
Pugalur HVDC station-Pugalur existing S/S 400 kV D/C(Q) Line					
Pugalur HVDC station-Arasur S/S 400 kV D/C (Q) line with 80 MVAR switchable line reactor at Arasur end.					
Pugalur HVDC station-Thiruvallam S/S 400 kV D/C (Q) line with 80MVAR switchable line reactor at both ends					
Pugalur HVDC station-Edayarpalayam S/S 400 kV D/C (Q) line with 63 MVAR switchable line reactor at Edayarpalayam end					
Edayarpalayam S/S-Udumalpet S/S 400 kV D/C (Q) Line					It was decided that the same would be explored and finalized in the next meeting of SCPSPSR.
400/230 kV, 2x500 MVA, Edayarpalayam S/S with 2x125 MVAR bus reactors.		2x500			

The matter regarding proposed HVDC link between Raigarh - Pugalur had been discussed in the 25th Meeting of SRPC. After discussions it had been felt prudent to recommend to Ministry of Power that this proposed link be developed by Power Grid Corporation at the earliest. Only Power Grid Corporation had the desired technical and financial expertise to take up the project in a timely manner. Accordingly, Chairperson, SRPC vide letter dated 25th September 2014 (Annexure-IV) had taken up the matter with Secretary (Power), Government of India..."

81. On perusal of the above quoted minutes of the Standing Committee meeting and SRPC meeting, we are of the view that the beneficiaries of the Southern Region had agreed to the implementation of the instant transmission asset, and, as such, the requirement of Clause 4.3.1 of the TSA is satisfied.

82. We have further perused the COD letters issued by Petitioner, which is quoted as follows:



Ref: SR-2/COMML/2020-21

Date: 06.09.2020

NOTIFICATION OF COMMERCIAL OPERATION

This is further to our Notification of Trial Operation dated 04.09.2020. Consequent to the successful completion of Trial Operation, the following asset under "HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) - North Trichur (Kerala) - Scheme#1: Raigarh-Pugalur 6000MW HVDC System" has been put under commercial operation with effect from 00:00 hours of 06th September 2020 in terms of Clause 1 of Regulation (5) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019:

- +/- 800KV 6000MW Raigarh(HVDC Station) - Pugalur (HVDC Station) HVDC link along with +/- 800KV 1500 MW (Pole-I) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

Transmission charges for the above asset is payable w.e.f. 06th September 2020 as per the tariff orders issued by CERC from time to time.


(S Ravi)

Executive Director (SR-II)

To:

1. Chairman & Managing Director, APTRANSCO, Vidyut Soudha, Near Axis Bank, Eluru Road, Gunadala, Vijayawada- 520004.
2. Chairman & Managing Director, TSTRANSCO, Vidyut Soudha, Khairatabad, Hyderabad-82.
3. Chairman & Managing Director, Kerala State Electricity Board Limited (KSEBL), Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004.
4. Chairman & Managing Director, TANGEDCO, NPKRR Maaligai, 800, Anna Salai, Chennai -600 002.
5. Managing Director, Karnataka Power Transmission Corporation Ltd., (KPTCL), Kaveri Bhavan, Bangalore - 560 009.
6. Chief Secretary, Electricity Department, Govt of Pondicherry, Pondicherry - 605001
7. Chief Secretary, Electricity Department, Govt of Goa, Panaji
8. Managing Director, Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), APEPDCL, P&T Colony, Seethammadhara, VISHAKHAPATNAM, Andhra Pradesh,
9. Managing Director, Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), D.No: 19-13-65/A, Srinivasapuram, Corporate Office, Tiruchanoor Road, TIRUPATI-517 503, Chittoor District, Andhra Pradesh.
10. Managing Director, Southern Power Distribution Company of Telangana Limited (TSSPDCL), 6-1-



Ref: SR-2/COMML/2020-21

पावर ग्रीड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Date: 09.03.2021

Encl - 5

NOTIFICATION OF COMMERCIAL OPERATION

This is further to our Notification of Trial Operation dated 23.02.2021. Consequent to the successful completion of Trial Operation, the following asset under "HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) - North Trichur (Kerala) - Scheme#1: Raigarh-Pugalur 6000MW HVDC System" has been put under commercial operation with effect from 00:00 hours of 9th March 2021 in terms of Clause 1 of Regulation (5) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019:

- +/- 800KV 1500 MW (Pole-II) HVDC terminal each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

Transmission charges for the above asset is payable w.e.f. 9th March 2021 as per the tariff orders issued by CERC from time to time.


(S Ravi)

Executive Director (SR-II)

To:

1. Chairman & Managing Director, APTRANSCO, Vidyut Soudha, Near Axis Bank, Eluru Road, Gunadala, Vijayawada-520004.
2. Chairman & Managing Director, TSTRANSCO, Vidyut Soudha, Khairatabad, Hyderabad-82.
3. Chairman & Managing Director, Kerala State Electricity Board Limited (KSEBL), Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004.
4. Chairman & Managing Director, TANGEDCO, NPKRR Maaligai, 800, Anna Salai, Chennai -600 002.
5. Managing Director, Karnataka Power Transmission Corporation Ltd., (KPTCL), Kaveri Bhavan, Bangalore - 560 009.
6. Chief Secretary, Electricity Department, Govt of Pondicherry, Pondicherry - 605001
7. Chief Secretary, Electricity Department, Govt of Goa, Panaji
8. Managing Director, Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), APEPDCL, P&T Colony, Seethmadhara, VISHAKHAPATNAM, Andhra Pradesh,
9. Managing Director, Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), D.No: 19-13-65/A, Srinivasapuram, Corporate Office, Tiruchanoor Road, TIRUPATI-517 503, Chittoor District, Andhra Pradesh.
10. Managing Director, Southern Power Distribution Company of Telangana Limited (TSSPDCL), 6-1-50, Corporate Office, Mint Compound, HYDERABAD - 500 063, Telangana.
11. Managing Director, Northern Power Distribution Company of Telangana Limited (TSNPDCL), H.No 2-5-3 1/2, Vidyut Bhawan, Corporate Office, Nakkal Gutta, Hanamkonda, WARANGAL - 506 001, Telangana.

दक्षिणी क्षेत्र पारेषण प्रणाली - II क्षेत्रीय मुख्यालय, आर.टी.ओ. ब्राइविंग टेस्ट ट्रक के पास सिंहनायकनहल्ली, येलहंका होब्ली, बेंगलूरु - 560 064. दूरभाष : 080-3093700
Southern Region Transmission System - II RHQ, Near RTO Driving Test Track, Singanayakanahalli, Yelahanka Hobli, Bengaluru - 560 064. दूरभाष : 080-3093700
केन्द्रीय कार्यालय : "सौदामिनी", प्लॉट नं. 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा); दूरभाष 0124-2571700
Corporate Office : "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel : 0124-2571700
पंजीकृत कार्यालय : बी-9, क़ुतुब इन्स्टीट्यूशनल एरिया, क़ादरिया सराय, नई दिल्ली 110 016 दूरभाष : 011-26560112, 26560121, 26564812, 26564813, 26564814, 26564815, 26564816, 26564817, 26564818, 26564819, 26564820, 26564821, 26564822, 26564823, 26564824, 26564825, 26564826, 26564827, 26564828, 26564829, 26564830, 26564831, 26564832, 26564833, 26564834, 26564835, 26564836, 26564837, 26564838, 26564839, 26564840, 26564841, 26564842, 26564843, 26564844, 26564845, 26564846, 26564847, 26564848, 26564849, 26564850, 26564851, 26564852, 26564853, 26564854, 26564855, 26564856, 26564857, 26564858, 26564859, 26564860, 26564861, 26564862, 26564863, 26564864, 26564865, 26564866, 26564867, 26564868, 26564869, 26564870, 26564871, 26564872, 26564873, 26564874, 26564875, 26564876, 26564877, 26564878, 26564879, 26564880, 26564881, 26564882, 26564883, 26564884, 26564885, 26564886, 26564887, 26564888, 26564889, 26564890, 26564891, 26564892, 26564893, 26564894, 26564895, 26564896, 26564897, 26564898, 26564899, 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Ref: SR-2/COMML/2021-22

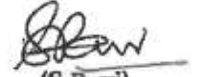
Date: 19.07.2021

NOTIFICATION OF COMMERCIAL OPERATION

This is further to our Notification of Trial Operation dated 11.07.2021 and CEA Minutes of meeting dated 19.07.2021 for meeting held on 05.07.2021 on part commissioning of Raigarh-Pugalur- Trichur HVDC Transmission system. Consequent to the successful completion of Trial Operation, the following asset under "HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) - North Trichur (Kerala) - Scheme#1: Raigarh-Pugalur 6000MW HVDC System" has been put under commercial operation with effect from 00:00 hours of 13th July 2021 in terms of Clause 1 of Regulation (5) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019:

- +/- 800KV 1500 MW (Pole-III) HVDC terminal each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

Transmission charges for the above asset is payable w.e.f. 13th July 2021 as per the tariff orders issued by CERC from time to time.


(S Ravi)

Executive Director (SR-II)

To:

1. Chairman & Managing Director, APTRANSCO, Vidyut Soudha, Near Axis Bank, Eluru Road, Gunadala, Vijayawada- 520004.
2. Chairman & Managing Director, TSTRANSCO, Vidyut Soudha, Khairatabad, Hyderabad-82.
3. Chairman & Managing Director, Kerala State Electricity Board Limited (KSEBL), Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004.
4. Chairman & Managing Director, TANGEDCO, NPKRR Maaligai, 800, Anna Salai, Chennai -600 002.
5. Managing Director, Karnataka Power Transmission Corporation Ltd., (KPTCL), Kaveri Bhavan, Bangalore - 560 009.
6. Chief Secretary, Electricity Department, Govt of Pondicherry, Pondicherry - 605001
7. Chief Secretary, Electricity Department, Govt of Goa, Panaji
8. Managing Director, Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), APEPDCL, P&T Colony, Seethammadhara, VISHAKHAPATNAM, Andhra Pradesh,
9. Managing Director, Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), D.No: 19-13-65/A, Srinivasapuram, Corporate Office, Tiruchanoor Road, TIRUPATI-517 503, Chittoor District, Andhra Pradesh.
10. Managing Director, Southern Power Distribution Company of Telangana Limited (TSSPDCL), 6-1-50, Corporate Office, Mint Compound, HYDERABAD - 500 063, Telangana.
11. Managing Director, Northern Power Distribution Company of Telangana Limited (TSNPDCL), H.No 2-5-3 1/2, Vidyut Bhawan, Corporate Office, Nakkal Gutta, Hanamkonda, WARANGAL - 506 001, Telangana.
12. Managing Director, Bangalore Electricity Supply Company Ltd., (BESCOM), Corporate Office, K.R.Circle, BANGALORE - 560 001, Karnataka.

केन्द्रीय कार्यालय : "सौदामिनी", प्लॉट नं. 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा), दूरभाष 0124-2571700-719
Corporate Office : "Saudamini" Plot No. 2, Sector-29, Gurugram-122001 (Haryana) Tel : 0124-2571700-719

जीकृत कार्यालय : बी-8, कुतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110 016 दूरभाष : 011-26560112, 26560121, 26564812, 26564892, 26564893, 26564894, 26564895, 26564896, 26564897, 26564898, 26564899, 26564900, 26564901, 26564902, 26564903, 26564904, 26564905, 26564906, 26564907, 26564908, 26564909, 26564910, 26564911, 26564912, 26564913, 26564914, 26564915, 26564916, 26564917, 26564918, 26564919, 26564920, 26564921, 26564922, 26564923, 26564924, 26564925, 26564926, 26564927, 26564928, 26564929, 26564930, 26564931, 26564932, 26564933, 26564934, 26564935, 26564936, 26564937, 26564938, 26564939, 26564940, 26564941, 26564942, 26564943, 26564944, 26564945, 26564946, 26564947, 26564948, 26564949, 26564950, 26564951, 26564952, 26564953, 26564954, 26564955, 26564956, 26564957, 26564958, 26564959, 26564960, 26564961, 26564962, 26564963, 26564964, 26564965, 26564966, 26564967, 26564968, 26564969, 26564970, 26564971, 26564972, 26564973, 26564974, 26564975, 26564976, 26564977, 26564978, 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Ref: SR-2/COMML/2021-22

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पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Date: 25.10.2021

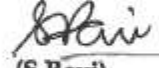
ENCL-1

NOTIFICATION OF COMMERCIAL OPERATION

This is further to our Notification of Trial Operation dated 23.10.2021. Consequent to the successful completion of Trial Operation, the following asset under "HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) - North Trichur (Kerala) - Scheme#1: Raigarh-Pugalur 6000MW HVDC System" has been put under commercial operation with effect from 00:00 hours of 25th October 2021 in terms of Clause 1 of Regulation (5) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019:

- +/- 800KV 1500 MW (Pole-IV) HVDC terminal each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

Transmission charges for the above asset is payable w.e.f. 25th October 2021 as per the tariff orders issued by CERC from time to time.


(S Ravi)

Executive Director (SR-II)

To:

1. Chairman & Managing Director, APTRANSCO, Vidyut Soudha, Near Axis Bank, Eluru Road, Gunadala, Vijayawada- 520004.
2. Chairman & Managing Director, TSTRANSCO, Vidyut Soudha, Khairatabad, Hyderabad-82.
3. Chairman & Managing Director, Kerala State Electricity Board Limited (KSEBL), Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004.
4. Chairman & Managing Director, TANGEDCO, NPKRR Maaligai, 800, Anna Salai, Chennai - 600 002.
5. Managing Director, Karnataka Power Transmission Corporation Ltd., (KPTCL), Kaveri Bhavan, Bangalore - 560 009.
6. Chief Secretary, Electricity Department, Govt of Pondicherry, Pondicherry - 605001
7. Chief Secretary, Electricity Department, Govt of Goa, Panaji
8. Managing Director, Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), APEPDCL, P&T Colony, Seethammadhara, VISHAKHAPATNAM, Andhra Pradesh,
9. Managing Director, Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), D.No: 19-13-65/A, Srinivasapuram, Corporate Office, Tiruchanoor Road, TIRUPATI-517 503, Chittoor District, Andhra Pradesh.
10. Managing Director, Southern Power Distribution Company of Telangana Limited (TSSPDCL), 6-1-50, Corporate Office, Mint Compound, HYDERABAD - 500 063, Telangana.
11. Managing Director, Northern Power Distribution Company of Telangana Limited (TSNPDCL), H.No 2-5-3 1/2, Vidyut Bhawan, Corporate Office, Nakkal Gutta, Hanamkonda, WARANGAL - 506 001, Telangana.
12. Managing Director, Bangalore Electricity Supply Company Ltd., (BESCOM), Corporate Office, K.R.Circle, BANGALORE - 560 001, Karnataka.

पूनी क्षेत्र पावर ग्रिड प्रणाली - II क्षेत्रीय मुख्यालय, वार.टी.ओ. इन्फार्मेशन टेस्ट ट्रैक के पास सिंगनेस्कान्हाली, येलाहन्का हॉबली, बेंगलूर - 560 064; दूरभाष - 080-23093700
Southern Region Transmission System - II RHQ., Near RTO Driving Test Track, Singanayakanahalli, Yelahanka Hobli, Bengaluru - 560 064. Phone : 080-23093700
केन्द्रीय कार्यालय : "सौभाग्य", प्लॉट नं.: 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा), दूरभाष 0124-2571700 (दिन)
Corporate Office : "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel. : 0124-2571700 (दिन)
II कार्यालय : बी-9, कृतुम इंस्टीट्यूशनल एरिया, कटवारिया सारस, नई दिल्ली - 110 016 दूरभाष : 011-26560112, 26560121, 26564812, 26564813, 26564814, 26564815, 26564816, 26564817, 26564818, 26564819, 26564820, 26564821, 26564822, 26564823, 26564824, 26564825, 26564826, 26564827, 26564828, 26564829, 26564830, 26564831, 26564832, 26564833, 26564834, 26564835, 26564836, 26564837, 26564838, 26564839, 26564840, 26564841, 26564842, 26564843, 26564844, 26564845, 26564846, 26564847, 26564848, 26564849, 26564850, 26564851, 26564852, 26564853, 26564854, 26564855, 26564856, 26564857, 26564858, 26564859, 26564860, 26564861, 26564862, 26564863, 26564864, 26564865, 26564866, 26564867, 26564868, 26564869, 26564870, 26564871, 26564872, 26564873, 26564874, 26564875, 26564876, 26564877, 26564878, 26564879, 26564880, 26564881, 26564882, 26564883, 26564884, 26564885, 26564886, 26564887, 26564888, 26564889, 26564890, 26564891, 26564892, 26564893, 26564894, 26564895, 26564896, 26564897, 26564898, 26564899, 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From the COD declaration letters above, it is observed that the COD of the asset has been intimated to all the SR and WR beneficiaries, SRPC, WRPC and GCIL. Hence the subject transmission asset satisfies the condition of Clause 4.3.2 of the TSA and forms part of the TSA as per Clause 4.3.2 of the TSA.

83. We observe that the subject transmission scheme was discussed and agreed upon in various meetings of the Standing Committee on Power System Planning of SR & WR as well as in SRPC and WRPC and none of the Respondents have raised the issue of regulatory approval either during the planning and execution of the subject transmission scheme or during the hearing of the tariff Petition.

84. We have perused the minutes of the meeting held at CEA on 21.8.2020 and 5.7.2021 on part-commissioning of Raigarh-Pugalur HVDC, as filed by the Petitioner vide Affidavit dated 11.08.2021. The said meeting was conducted by CEA and attended by SR constituents in addition to CTU, GCIL, and SRPC, whereby the following is quoted:

Meeting dated 21.8.2020

"5. As per discussion in the 39th SCPSPSR, CTU vide letter dated 10.07.2020, has submitted the proposal for part commissioning of Raigarh – Pugalur HVDC Transmission System (part of Scheme -1 part of Scheme-2) for consideration of CEA as under:

- Raigarh – Pugalur HVDC line and Pole 1 (1500 MW) are ready for commissioning and test are in progress.
- Pugalur (HVDC) – Pugalur (existing) 400 kV D/c line is ready for commissioning.
- Pugalur – Arasur 400 kV D/c line would be ready for Commissioning by 31.08.2020.

Commissioning of above transmission system will facilitate additional import of 1500 MW power in Southern Region. Director (PSPA-I), CEA, informed that the proposal has been examined and technically it has been found to be generally in order for transfer of 1500 MW power of Southern Region. He requested CTU to present the detailed proposal.

6. CGM (CTU-Plg) informed that the Raigarh – Pugalur HVDC transmission system was planned in 2015 for import of power in Southern Region from NEW Grid. Southern Region was facing acute shortage of power due to delay in large number of generation projects in the NEW (North, East & West) Grid, however, due to constraints in inter-regional links, power import was limited and region could not meet the electricity demand. He further stated that the Raigarh – Pugalur – Trichur HVDC transmission system is a large scheme and considering the ROW/ land issues, it is not possible to complete and charge all the elements of the scheme at one go. Further, it will be beneficial from grid security point of view if the scheme is commissioned in stages so that its impact on grid, if any, can be analysed and appropriate action could be taken.

Further, details of elements ready for commissioning as part of Scheme#1 and Scheme#2 are as given below.

Elements ready for commissioning from Scheme #1

- i. +800 kV Raigarh HVDC Station with 1500 MW HVDC terminal (Pole-1)
- ii. +800 kV Pugalur HVDC Station with 1500 MW HVDC terminal (Pole-1)
- iii. +800 kV Raigarh (HVDC Stn) – Pugalur (HVDC Stn) HVDC line.

Elements ready for commissioning from Scheme #2

- i. Pugalur (HVDC) – Pugalur (Existing) 400 kV D/c line
- ii. Pugalur (HVDC) – Arasur 400 kV D/c line

Details of commissioning schedule of other elements are enclosed at Annex-2.



7. CGM (CTU-Plg) further informed that based on the study result it was observed that 1500 MW power can be transferred over this Raigarh – Pugalur HVDC system even under N-1-1 contingency criteria. It was also informed that commissioning of above transmission system will facilitate enhancement in import ATC of Southern Region by 1500 MW and it shall provide additional control flexibility to the grid operator in power flow management and maintaining system parameters.

8. Chief Engineer (PSPA-I), CEA, requested Southern Region constituents to express their views/observations on the part commissioning of the transmission system.

9. Representative of TSTRANSCO congratulated PGCIL for their efforts in implementation and readiness for part commissioning for Raigarh-Pugalur HVDC transmission system and informed that they welcome the part commissioning of the system. It was also stated that as explained by CTU, it will enhance the import capability of the Region – Pugalur HVDC transmission system is of National importance and may be considered as National Component.

10. Chief Engineer, KSEB, stated that they also welcome the part commissioning of the Raigarh – Pugalur HVDC transmission system and are of same opinion as that of TSTRANSCO for declaring the assets as National Component.

11. Chief Engineer (PSPA-1), CEA, informed that the Raigarh – Pugalur HVDC transmission was planned for import of power to Southern Region and subject meeting was regarding part commissioning of the Raigarh – Pugalur HVDC transmission system. The matter regarding considering Raigarh-Pugalur-Trichur HVDC transmission system as National Component has been taken up separately through a VIP reference and the matter has been flagged in Ministry of Power, Government of India. Matter regarding considering the Raigarh – Pugalur –Trichur HVDC transmission system as a National Component is beyond the scope of this forum and is under the purview of CERC.

....

18. Chief Engineer (PSPA-I), CEA, opined that as the Southern Region constituents and POSOCO are in agreement for part commissioning of the Raigarh – Pugalur HVDC transmission system, PGCIL may commission the part transmission system as per their proposal, subject to the following:

a) Commissioning of Pugalur (HVDC) – Pugalur (Existing) 400 kV d/c line and Pugalur (HVDC) –Arasur 400 kV D/c line to be ensure before commissioning of Single pole of Raigarh-Pugalur HVDC transmission system.

b) Technical issue and other constraints observed consequent to commissioning shall be flagged for discussion and review in the next SRPC(TP) Meeting.

19. After detailed deliberations, it was agreed that PGCIL may commission part of Raigarh-Pugalur HVDC transmission system comprising of the following elements:

Part of Scheme # 1: Raigarh-Pugalur 6000 MW HVDC System

i. + 800kV Raigarh HVDC Station with 1500 MW HVDC terminal (Pole-1)

ii. + 800kV Pugalur HVDC Station with 1500 MW HVDC terminal (Pole-1)

iii. + 800kV Raigarh (HVDC Stn)-Pugalur (HVDC Stn) HVDC line.

Part of Scheme#2: AC System Strengthening at Pugalur end

i. Pugalur (HVDC) –Pugalur (Existing) 400 kV D/c line

ii. Pugalur (HVDC) –Arasur 400 D/c line.”



Meeting dated 5.7.2021

"5. As per discussion in the meeting held on 21.8.2020 and 30.12.2020 regarding part commissioning of Raigarh-Pugalur-Trichur HVDC Transmission system following elements Raigarh-Pugalur-Trichur HVDC Transmission system have already been commissioned.

- Bipole -I (3000 MW) of Raigarh- Pugalur HVDC transmission system (Part of Scheme-1).*
 - Pugalur (HVDC) – Pugalur (existing) 400 kV D/c line -Arasur 400 kV D/c (Quad) line (Part of Scheme 2).*
 - Monopole-II (1000 MW) of Pugalur -North Trichur VSC HVDC system (Part of Scheme-3).*

7. CTUIL Informed that POWERGRID has proposed following elements of the Raigarh-Pugalur-Trichur HVDC system for commissioning in phased manner.

Elements ready for commissioning at Present

- a. Pole-I (1500 MW) of Bipole -II (3000 MW) of Raigarh- Pugalur HVDC system (part of Scheme #1)*
- b. Pugalur (HVDC) -Edayarpalayam 400 kV (quad) D/c line (Part of Scheme #2)*
- c. Edayarpalayam- Udumalpet 400 kV (quad) D/c line (Part of Scheme #2)*

Elements to be ready for commissioning by July 2021:

- i. Pole-II (1500 MW) of Bipole -II (3000 MW) of Raigarh- Pugalur HVDC system (part of Scheme #1)*
- ii. Pugalur (HVDC) -Thiruvallam 400 kV (quad) D/c line (Part of Scheme #2)*

It was also informed that the Edayarpalayam S/s is still under implementation by TANTRANSOCO . Hence , Edayarpalayam S/s has been bypassed as an interim measure to for Pugalur (HVDC) -Udumalpet 400 kV D/C (Quad) line by connecting Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line and Edayarpalayam - Udumalpet 400 kV D/c (quad) D/C line.

As per the above quoted minutes, it is observed that commissioning of the subject transmission scheme has also been discussed among SR constituents, where KSEB and TSTRANSOCO welcomed part commissioning of the asset.

"18. After deliberations, following was agreed:

- i. As trial operation of Monopole-I (1000 MW) of Pugalur – North Trichur VSC based HVDC system has already been completed, therefore the same may be commissioned.*
- ii. Following transmission elements may be commissioned on completion.*
 - Pole-I (1500 MW) of Bipole-II (3000 MW) of Raigarh-Pugalur HVDC system.*
 - Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line*



- Edayarpalayam – Udumalpet 400 kV (quad) D/c line Pole-I (1500 MW) of Bipole-II (3000 MW) would be commissioned only after commissioning of Pugalur (HVDC) – Edayarpalayam– Udumalpet 400 kV (quad) D/c line. As Edayarpalayam S/s is still under construction, the Pugalur (HVDC) – Edayarpalayam 400 kV (quad) D/c line and Edayarpalayam – Udumalpet 400 kV (quad) D/c line would be bypassed at Edayarpalayam to form Pugalur (HVDC)- Udumalpet 400 kV (quad) D/c line as an interim arrangement.

iii. POWERGRID to expedite the commissioning of Pugalur (HVDC) – Thiruvallam 400 kV D/c (quad) line.”

85. In light of the above discussions and the provisions of the TSA (Clauses 4.3.1 and 4.3.2 read with Clause 4.1.1) read with the minutes of the meeting of the Standing Committee, SRPC, and the COD letter dated 6.9.2020, we are of the considered view that the instant assets fall under Regulation 3(2) of the 2010 Regulatory Approval Regulations, and the regulatory approval was not a requirement for the said asset.

86. Accordingly, we do not find any anomaly in the planning and execution of the subject transmission assets and accordingly hold that obtaining regulatory approval was not a requirement since all the beneficiaries have agreed to the subject System Strengthening Scheme before various fora and have also signed the BPTA and the TSA.

87. The issue is decided accordingly.

88. TANGEDCO has also raised the issue of unused/redundant capacity in the Southern region, which is discussed in subsequent paragraphs.

89. TANGEDCO has submitted that there is redundant capacity in the Southern region. TANGEDCO has submitted that, as per GCIL's report filed before the Commission, the maximum flow in the WR-SR corridor has reached 11952 MW and SR-WR is 6284 MW. Further, from the said report, the maximum SR import is 17436 MW and the maximum SR export is 5118 MW. As per the Commission's order dated 22.9.2023 in 11/SM/2023, the GNA bifurcation for SR outside the region as per Regulation 18.1 (d) is only 6481 MW. However, the TTC of the NEW grid to SR is 22000 MW. The data presented by GCIL is in direct contravention since the existing NEW grid - SR ATC, is more than four times the approved GNA outside the region for SR.

90. TANGEDCO has further submitted that the additional lines of Warora-Warangal 765 kV D/c (4000MW), the Raigarh- Pugalur HVDC (6000 MW), and Narendra-Pune (4000 MW) (Total capacity of 14000 MW) are an unwarranted burden on the consumers of the entire nation.

91. TANGEDCO has further submitted that there is no tie-up with any generator or beneficiaries in respect of the Raigarh-Pugalur HVDC transmission system. To show power flow in the HVDC / usage of HVDC, the Petitioner is getting some power scheduled through the subject HVDC by reducing the power flow in the WR-SR Inter-regional AC corridors.



92. GCIL has submitted that the maximum power flow and the percentage duration of flow in a certain direction recorded in the WR to SR flow, SR to WR flow, and net SR import and net SR export during the last six years are as follows:

Corridor	Maximum Corridor Flow (MW)						Percentage of time the flow is in the Direction of the Corridor (%)					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24*	2018-19	2019-20	2020-21#	2021-22	2022-23	2023-24*
WR to SR	7058	7293	9471	10110	10709	11952	83%	85%	91%	61%	62%	80%
SR to WR	4434	4022	4571	7255	8363	6284	17%	15%	9%	39%	38%	20%
SR Import	10542	13064	14877	15844	16392	17436	97%	96%	99%	87%	87%	94%
SR Export	3607	2989	2355	6151	7903	5118	3%	4%	1%	13%	13%	6%

*From Apr – 2023 to 10 Sep 2023

#Covid – 19 impact

93. We have considered the submissions of TANGEDCO and the data shared by GCIL. It is observed that SR has imported up to 17,500 MW of power in 2023-24. Further, energy can be scheduled only for the Available Transfer Capability and not TTC. It is also clarified that it is not appropriate to use the data on GNA from outside the region as referred to in Petition No. 11/SM/2023 in the context of drawl by SR in 2023-24 since the GNA data was based on drawl in 2018-2021. Further, GNA is the representative data where only 50% weightage was considered for the maximum ISTS drawal. The actual drawl by SR may have been higher. We also note that the Raigrah-Pugalur HVDC transmission system was used for the evacuation of power from WR to SR up to 6600 MW in the month of April 2023. Hence, we are of the considered view that the respondent TANGEDCO has not been able to establish that there is unused capacity in the Southern Region, and hence, we do not find any justification for issuing any directions in this regard.”

92. Upon careful perusal of the above findings in our order dated 30.10.2023 in Petition No. 685/TT/2020 (on remand), we are of the considered view that the instant assets fall under Regulation 3(2) of the 2010 Regulatory Approval Regulations and that regulatory approval was not required for these assets. Furthermore, we have observed that no anomalies were noticed in the planning and execution of the subject transmission assets. We, therefore, hold and affirm that obtaining regulatory approval was not necessary as per extant regulations. Moreover, all beneficiaries had agreed to the subject system strengthening scheme in various fora and also signed the BPTA and the TSA.



93. As regards the contentions of TANGEDCO that under the provisions of the 2009 Connectivity Regulations, only the generators and bulk consumers are eligible to apply for the connectivity. TANGEDCO, being a distribution licensee, is not entitled to apply for the connectivity. According to TANGEDCO, open access is applied for by the IPPs for the purpose of supplying power to a procurer; LTA is operationalised either pursuant to the execution of the PPA or, in some cases, even in the absence of PPA. TANGEDCO has further contended that charges for the transmission system are borne by the generators till it enters into a PPA with a procurer.

94. In response, the Petitioner in its written submission dated 20.9.2024 has submitted that the Raigarh-Pugalur-Trissur HVDC system was never envisaged or implemented based on the LTA request or to provide access to any generator. It was a system strengthening scheme primarily designed to establish strong connectivity between the SR and WR for the power needs of southern region states facing acute power shortages. The system was demanded by TANGEDCO within a compressed timeframe, and all other SR beneficiaries agreed that only the Petitioner possesses the requisite expertise to implement the system. The Petitioner has further submitted that there is no violation of Regulations 27 or 33 of the 2009 Connectivity Regulations in relation to the signing of the BPTA or TSA with long-term beneficiaries/DICs, which is a one-time event, and any new system agreed upon in the RPC forums is added as and when it is declared under commercial operation. Accordingly, no DIC or Discom is required to apply for connectivity or open access with respect to system strengthening schemes.



95. We have considered the foregoing contentions of TANGEDCO as well as the submissions of the Petitioner in the context of the provisions of the 2009 Connectivity Regulations. Upon careful perusal of the record, it is noted that the instant HVDC transmission system is implemented as a system strengthening scheme for power transfer from the WR Region to the SR Region. The current HVDC system is not implemented based on the LTA request of any particular generator. It is further noted that the scheme has also been discussed and agreed upon in various meetings of the Standing Committees and Regional Power Committees of the Southern and Western Regions, which are as follows:

Sl. No.	Dated	Particulars
1	4.1.2013	35 th Meeting of the Standing Committee on Power System planning in the Southern Region
2	29.8.2013	36 th Meeting of the Standing Committee on Power System planning in Western Region
3	4.9.2013	36 th meeting of Standing Committee on Power System planning in Southern Region
4	9.10.2013	24 th Meeting of the Western Regional power committee
5	26.10.2013	23 rd Meeting of the Southern Regional Power Committee
6	15.3.2014	24 th Meeting of the Southern Regional Power Committee
7	31.7.2014	37 th Meeting of the Standing Committee on Power System planning in Southern Region
8	26.7.2014	25 th Meeting of the Southern Regional Power Committee
9	5.9.2014	37 th Meeting of the Standing Committee on Power System planning in the Western Region
10	30.9.2014	33 rd Meeting of the Empowered Committee on Transmission
11	20.12.2014	26 th Meeting of the Southern Regional Power Committee
12	7.3.2015	38 th Meeting of the Standing Committee on Power System planning in the Southern Region
13	13.4.2015	34 th Meeting of the Empowered Committee on Transmission
14	20.4.2015	Joint Meeting of the Standing Committee on Power System planning in the Southern Region and the Western Region
15	12.5.2015	27 th Meeting of the Southern Regional Power Committee



Sl. No.	Dated	Particulars
16	28.5.2015	Joint Meeting of the Standing Committee on Power System planning in the Southern Region
17	28.5.2015	Corrigendum-Joint Meeting of Standing Committee on Power System planning in Southern Region and Western Region
18	29.9.2015	Prior Approval Letter of the Government under Section-68(1) of Electricity Act, 2003

96. In light of the minutes from various RPC/SCM, stating that it is approved as a system strengthening scheme; we are of the view that the contention raised by TANGEDCO has no merit.

97. Accordingly, this issue is decided.

Issue No.2: How do the cases of Biswanath-Chariali/ Alipurduwar – Agra and Mundra-Mohindergarh HVDC compare with those of the instant transmission asset?

98. TANGEDCO and other Southern Region beneficiaries contended that the Commission has exercised its power and declared the Biswanath-Chariali-Alipurduwar-Agra and Mundra-Mohindergarh HVDC systems of National Importance, including them under the National Component as per the 2020 Sharing Regulations. Accordingly, in present cases, similar treatment may be meted out to the instant transmission assets.

99. The Petitioner has submitted that neither the Biswanath-Chariali nor the Mundra-Mohindergarh cases are comparable to the subject transmission assets. The Biswanath Chariali-Alipurduar-Agra HVDC line and the Mundra Mohindergarh HVDC transmission were decided during the 2010 Sharing Regulations, which provided for a different regulatory regime. There are also several other HVDCs for which the sharing of transmission charges has been implemented in accordance with the 2020 Sharing Regulations, i.e. 70% of the transmission charges as the



Regional Component and 30% of the transmission charges as the National Component. Therefore, there cannot be a blanket provision or adjudication since other HVDC lines in the past have been declared of National Importance in terms of the 2020 Sharing Regulations. During the hearing in Petition No. 685/TT/2020, the reply filed by POSOCO (GCIL) indicated that around 98.5% of the time, the power flow is from WR to SR for FY 2023-24. The subject HVDC asset was discussed and agreed upon in various meetings of the Standing Committee on Power System Planning of SR and WR, as well as in SRPC and WRPC, wherein all SR beneficiaries, including AP Discoms, were participants. Further, in its remand order, APTEL did not direct the Commission to declare the subject asset as a National Component. Instead, it remanded the matter for further consideration and deliberation, including consultations with CTUIL, POSOCO, and CEA and taking into account the letter dated 30.5.2022, as APTEL adhered to the statutory mandate of the Tariff Regulations and the Sharing Regulations and in terms of the parent statute, i.e. the Electricity Act, 2003. The Commission in its order dated 30.10.2023 in Petition No. 685/TT/2020, has duly considered each and every aspect, such as power flow data, the usage by the SR beneficiaries, the issue of Power Flow in forward and backward direction, etc, provided by the entities and has accordingly passed the detailed order.

100. We have considered the submissions of the Petitioner and Respondents and have perused the documents available on record. We have considered this issue at length in our order dated 30.10.2023 in Petition No. 685/TT/2020. We think it proper to refer to the relevant excerpts of the said order dated 30.10.2023, which are as follows:



“94. We note that the APTEL, vide judgement dated 18.7.2023, had remanded the matter back to the Commission with the following observations:

*“
.....*

28. We find it totally inconsistent approach adopted in the present case, its decision to defer the consideration of the instant HVDC link under the components of National Importance to a later stage based on change in load generation and bi-directional flow of power is unreasonable as the Dehgam–Mundra–Mohindergarh–Bhiwani link, till date, has operated with only unidirectional flow, as submitted by the Appellant and also that the ± 800 kV Biswanath Chariali-Agra HVDC link is underutilized and the SR is not benefitted by either of the two.

29. Further, the Central Commission decided the issue after considering the comments of the CEA, POSOCO & CTU in earlies cases, however, passed the Impugned Order without considering these regulations in the instant case.

30. We appreciate the views of the CTU and in the light of the above mentioned Orders, Statement of Reasons to the Sharing Regulations, 2020, and the fact that Raigarh-Pugalur HVDC transmission link will also be utilized for export of power outside the Southern Region(bi-directional) (on account of surplus scenario and optimistic RE capacity addition projections), the HVDC transmission link is likely to be utilized for both import and export of power under various operating conditions and may be considered as National Component under the Sharing Regulations, 2020.

....32. Therefore, the submissions of the Appellant under these circumstances find merit, for considering the Raigarh — Pugalur HVDC transmission system as assets of strategic and national importance in line with the other HVDC systems so that the charges are shared on all India basis.

33. We, therefore, find it appropriate to set aside the Impugned Order and direct the Central Commission to pass fresh order in the light of the observations recorded in the foregoing paragraphs and also duly consulting the statutory authorities i.e. CEA, CTU and POSOCO in the matter and also considering the aforementioned MoP’s letter dated 30.05.2022.”

In light of the observations of the APTEL as quoted above, it is necessary to compare and contrast the nature and treatment of the instant transmission asset vis-à-vis the Mundra–Mohindergarh HVDC and ± 800 kV Biswanath Chariali-Agra HVDC links.

95. The Southern Region beneficiaries and SEIL in the remand proceedings have contended that this Commission has exercised its powers to declare the Biswanath-Chariali and Mundra - Mohindergarh HVDC systems for declaration as national assets and included them under the ‘National Component’ under the 2020 Sharing Regulations and accordingly, in the present case, similar dispensation ought to be given. Further, AP Discoms have submitted that the Commission did not take into consideration the actual usage of the Biswanath-Chariali-Alipurduar-Agra HVDC transmission line and Mundra-Mohindergarh HVDC transmission line while granting them the status of national and strategic importance.

96. Let us consider the factual position with respect to the Biswanath Chariali-Alipurduar Agra HVDC transmission line and the Mundra-Mohindergarh HVDC transmission line.



A. Mundra-Mohindergarh HVDC

- a) The Mundra-Mohindergarh HVDC system was developed as a dedicated transmission system with a capacity of 2500 MW with a 1005 MW surplus capacity (PPA for 1495 MW existed between Adani Power Limited and the Haryana Government, and the balance of the 1005 MW capacity was spare). On the suggestions of CEA and GCIL, to utilise surplus capacity for inter-regional transfer of power, a licence was granted to the said HVDC by the Commission vide order dated 8.6.2013 in Petition No. 44/TL/2012, under Regulation 6(c) of the Central Electricity Regulatory Commission (Terms and Conditions for grant of transmission licence and other related matters) Regulations, 2009 (hereinafter referred to as “2009 Transmission Licence Regulations”). The relevant extract of the order dated 8.6.2013 in Petition No. 44/TL/2012 is as follows:

“33. Undoubtedly, the petitioner is a generating company and has established the dedicated transmission lines. By filing the present application, the petitioner has shown its intention to use the dedicated transmission lines as the main transmission lines. The question that is left for examination is whether the dedicated transmission lines can be considered and used as part of ISTS. In our view, there are a number of circumstances which support the claim of the petitioner that the dedicated transmission lines are functioning as part of ISTS.

34. The approvals of long-term access granted to the petitioner for development of the dedicated transmission lines with multiple grid connectivity points is one such circumstance. These approvals clearly indicate that since the beginning, intent of CEA and CTU was to operate the dedicated transmission lines as ISTS. It is clear that although these lines were treated as dedicated transmission lines, all aspects of these lines like type of conductor, possibility of line outage and further open access through these lines were discussed in the meetings for grant of open access. The criteria considered were in no way different from the criteria applied for construction of inter-State transmission lines. It has come on record that by virtue of connectivity of Mundra–Dehgam transmission line at Dehgam sub-station of PGCIL, power of other entities is flowing on this line, though inadvertently. This fact too shows that this transmission line does not remain a dedicated transmission line as defined in section 2(16) of the Act.

35. As regards the HVDC Transmission Line from APL Mundra to Mohindergarh, due to technical characteristic of HVDC operation, it is possible to control exactly the amount and direction of power flow so that there is no issue of incidental flow. The petitioner’s claim for its optimum capacity utilization has been examined hereafter.

36. The first issue is whether the spare capacity of this line can be used for Open Access. In this regard, the petitioner has submitted the copy of Ministry of Power (MOP) approval under section 68 of the Act for laying of 2500 MW (+-500kV) HVDC Mundra-Mohindergarh transmission line issued vide letter No. 11/4/07/PG dated 12/03/2009. The above approval is subject to the following condition:-

- i. M/s Adani Power agree to provide run back system on their generation to avoid loading of other line in case of outage of the single pole/bi-pole of Mundra-Mohindergarh HVDC line.*



ii. M/s Adani Power would provide non-discriminatory open access to their licensee/generator at the HVDC line to the extent of available transmission margins.

This approval was further modified by Ministry of Power vide their letter dated 31.7.2009 to include the 400kV double circuit Mohindergarh (HVDC)–Bhiwani(Powergrid) transmission line. Further, while granting approval on 31.8.2009 under Section 164 of the Act, Ministry of Power, Government of India has laid down the following condition:

(iii) The applicant shall have to follow Regulation/course of the appropriate Commission regarding transmission, O&M Open Access etc.”

Since inception, it was clear that open access was to be provided on this line to the extent of available transmission margin. If open access is to be provided on this line, the transmission line needs to be an ISTS line as the petitioner cannot transmit electricity without obtaining a licence. The issue of optimum utilisation of the transmission line was discussed in the meeting convened by CEA on 9.9.2012 wherein the following were discussed:

“It was agreed that the high capacity HVDC Bipole from Mundra to Mohindergarh should be optimally utilized. POSOCO suggested that operating of HVDC system as a separate control area could also be explored and discussed. It was agreed that further deliberations would be required between all concerned agencies in order to arrive at the operational modalities of the HVDC Bipole link between Mundra and Mohindergarh in parallel with the inter-regional links between Western Region and Northern Region.”

Further, CEA in its opinion dated 16.3.2012 has stated the following with regard to utilisation of the asset of the petitioner for inter-regional transfer of power:

“The Mundra – Mohindergarh HVDC system is designed for 2500 MW and has surplus capacity even after considering long-term PPAs with Haryana totaling to 1424 MW. Since HVDC bi-pole shall be operating with Mundra bus connected with the western regional system on one end and with CTU and Haryana system of northern region on the other end, this can be utilized for inter regional transfer of power between WR and NR. The Ministry of Power, while granting permission in July, 2009 for laying of over head lines under section 68 of the Electricity Act, 2003, had put a condition to provide non-discriminatory open access to other licensee/ other licensee/other generators on the Mundra-Mohindergarh HVDC line to the extent of available transmission margins. However, the condition can be complied only if the dedicated asset is converted into a licensed asset. Dehgam – Mundra – Mohindergarh – Bhilwani corridor developed as a dedicated transmission system by APL will act as a parallel inter regional link and will have an important role to play in the national grid if it is converted from a dedicated asset to a licensed inter- state asset. As the dedicated system evolved in stages, it has so happened that dedicated assets in question would in practice be forming part of the meshed inter-state transmission system. It has already been pointed out by POSOCO that power order of the high capacity Mundra – Mohindergarh bi-pole would have an implication on the calculation of total transfer capability and available transfer capability of the WR-NR corridor. if the dedicated assets of APL are converted into licensed assets it would result in better optimization and utilization of the transmission assets and increase in the transfer capability of the national grid. Once the dedicated assets are converted into licensed assets further power system



studies could be carried out and additional transmission links could be planned, if necessary, in order to increase the transfer capability between NR and WR through Mundra – Mohindergarh HVDC bipole.”

Further, POSOCO in its submission dated 23.07.2012 has submitted the following with regard to the optimal utilisation of the transmission assets.

“As can be inferred from the order para nos. 18 and 19 (Commission's order dated 28.06.2012) the spare capacity of the HVDC link would not be used by the system operator till the grant of transmission license by the Commission so as to maintain 'dedicated status'. This, however, might result in sub-optimal operation of the system. Even if the system operator increases the power flow on HVDC in case of any contingency, there would be power flow from State –II to Stage – III and the reverse power relay at Mundra would trip the HVDC link and further endanger the system unless arrangements for temporarily bypassing the reverse relay in real time is available. In accordance with Ministry of Power approval dated 31.8.2009, the petitioner is required to provide third party access on this link. If third party open access is to be provided then it is necessary that a license is required to be taken.”

Based on above discussion, it clearly emerges that the CEA, and POSOCO are of the view that the transmission assets of the petitioner can be used as ISTS for optimum utilisation of transmission capacity.”

As per the above, it is observed that the Ministry of Power, while granting permission in July 2009 for the laying of overhead lines under Section 68 of the Electricity Act, 2003, had put a condition to provide non-discriminatory open access to other licensees /other generators on the Mundra-Mohindergarh HVDC line to the extent of available transmission margins. Further, CEA and GCIL opined that the high capacity HVDC Bipole from Mundra to Mohindergarh should be optimally utilized which is an inter-regional link between the Western Region (WR) and the Northern Region (NR), and that the same can be utilized only when the dedicated asset is converted into a licenced asset. The sharing of transmission charges in respect of the Mundra-Mohindergarh HVDC system was to be done as per the existing Sharing Regulations.

- b) Regulation 6(c) of the 2009 Transmission License Regulations provides for eligibility for the grant of a licence to a generating company that has established the dedicated transmission line and intends to use the dedicated transmission line as the main transmission line and part of the inter-State transmission system. In terms of the said provisions, a transmission licence was issued to Adani Power Limited. Under Regulation 6 (c) of the 2009 Transmission Licence Regulations, many other generators, such as Torrent, ACBIL, and Aravali Jhajjar, were also issued transmission licences. (Order dated 7.11.2013 in Petition No. 169/TL/2013 in respect of Aravali Power Company Private Limited, order dated 12.8.2013 in Petition No. 170/TL/2012 in respect of ACB India Ltd., and order dated 15.7.2013 in Petition No. 123/TL/2012 in respect of Torrent Energy Limited, Ahmedabad).*
- c) As a matter of fact, the Mundra-Mohindergarh HVDC system was not declared an asset of national and strategic importance, and only a transmission licence was granted to Adani Power Limited. Further, the sharing of transmission charges for HVDC Mundra-Mohindergarh has all along been in terms of the provisions of the*



applicable Sharing Regulations, with charges corresponding to 1495 MW borne by Adani Power Company Limited and the charges corresponding to 1005 MW were shared by DICs in terms of the provisions of the relevant regulations, viz., the 2010 Sharing Regulations and the 2020 Sharing Regulations.

- d) The relevant provisions of the 2010 Sharing Regulations (Regulation 11(4)) and the 2020 Sharing Regulations are as quoted below:

2010 Sharing Regulations

“3. HVDC charge

(i) 10% of Monthly Transmission Charges (MTC) of HVDC transmission system shall form part of Reliability Support Charges and the balance shall be billed as detailed below:

Transmission Charges for HVDC system created to supply power to specific regions shall be borne by DICs of such regions.

The HVDC Charge shall be payable by DICs of the Region in proportion to their Approved Withdrawal. In case of Injection DICs having Long Term Access to target region, it shall also be payable in proportion to their Approved Injection.

For Generators having LTA to target region:

[HVDC Charge for Region in Rs/month} x [Approved Injection} / [Total Approved

Withdrawal of the Withdrawal DIC and Approved Injection of the Generator having LTA to target Region].

For Demand: [HVDC Charge for Region in Rs/month]x[Approved Withdrawal]/[Total Approved Withdrawal of the Withdrawal DIC and Approved injection of the Generator having LTA to target Region]

....

(iii) Where transmission charges for any HVDC system are to be partly borne by a DIC (injecting DIC or withdrawal DIC, as the case may be) under a PPA or any other arrangement, transmission charges in proportion to the share of capacity in accordance with the PPA or other arrangement shall be borne by such DIC and the charges for balance capacity shall be borne by the remaining DICs by scaling up of MTC of the AC system included in the PoC. Such HVDC shall not be considered under (i) above.”

2020 Sharing Regulations

“(3) National Component-HVDC shall comprise of the following:

(a) 100% of Yearly Transmission Charges for “back-to-back HVDC” transmission system;

(b) 100% of Yearly Transmission Charges for Biswanath-Chariali/ Alipurdwara to Agra HVDC transmission system;

*(c) Yearly Transmission Charges of Mundra–Mohindergarh 2500 MW HVDC transmission system **corresponding to 1005 MW capacity:***

Provided that Yearly Transmission Charges corresponding to 1495 MW for the said transmission system shall be borne by M/s Adani Power (Mundra) Limited or its successor company; and



(d) 30% of Yearly Transmission Charges for all other HVDC transmission systems except those covered under sub-clauses (a), (b) and (c) of this clause of this Regulation.

(4) The Yearly Transmission Charges for the National Component shall be shared by all drawee DICs and injecting DICs with untied LTA in proportion to their quantum of Long-Term Access plus Medium Term Open Access and untied LTA respectively”

As per the above, the transmission charges for Mundra-Mohindergarh HVDC, corresponding to 1005 MW (~40% of total charges), were shared on an all-India basis by scaling up POC charges under the 2010 Sharing Regulations. In order to continue the sharing principle for 1005 MW as in the 2010 Sharing Regulations, the transmission charges for 1005 MW were included under the National Component in the 2020 Sharing Regulations.

B. Biswanath-Chariali Agra HVDC Transmission System

- a) The Biswanath-Chariali Agra HVDC Transmission System (BNC-Agra) was considered a system of national and strategic importance vide order dated 8.1.2016 in Petition No. 67/TT/2015 with detailed elaborations and arguments. The relevant extracts of the order dated 8.1.2016 in Petition No. 67/TT/2015 are as follows:

“24. Keeping in view the above provisions of Sharing Regulations, we proceed to decide the proposed methodology for sharing of transmission charges for the HVDC link (Asset-I).

25. Government of India mooted a proposal for development of hydro projects with a capacity of 50000 MW and accordingly, 50000 MW Hydro Electric Initiative was launched in May 2003 by the then Hon’ble Prime Minister of India. About 40000 MW of power was planned to be evacuated from NER / Sikkim and Bhutan. The transmission system for all the generation projects was to traverse through “Chicken Neck” area having a length of 18 km and width of 22 km and would require about 1.5 km wide transmission corridor to evacuate the quantum of power. In a meeting taken by Jt. Secretary (Hydro), Ministry of Power on 2.11.2004, it was decided that the hybrid system of HVDC and AC was the desirable option for evacuation of 12000 MW of power from NER by the end of 12th plan. In the meeting taken by Secretary (Power) on 8.12.2004, it was decided that corresponding to the ultimate capacity of hydro projects in NER, the evacuation system would require 14-16 transmission corridors passing through the “Chicken Neck” area. During the meeting taken by Secretary (Power) on 22.2.2005, it was decided that for security, reliability as well as for reservation of right of way, it would be desirable to go ahead with the building of transmission corridors in the “Chicken Neck” area. In another meeting taken by Secretary (Power) on 6.12.2005, the phased development of NER / Sikkim and Bhutan projects was deliberated and it was decided that the transmission system should be developed for phased development of generation at the rate of 2000 MW each during 2009-10, 2010-11 and 2011-12 respectively. Central Electricity Authority submitted a comprehensive note to Ministry of Power on 17.03.2006 on the transmission system for evacuation of power for major generation projects in the North Eastern Region along with power from projects coming in Sikkim and Bhutan during the 11th plan and 12th plan period. CEA in the said note has suggested that the option of hybrid network of HVDC and high capacity 400 kV line has been found to be most suitable from cost, corridor, operational and phased development



consideration. Further, CEA has also stated that as the transmission distance from NER / WR is quite long i.e. 2000 to 2500 km, the requirement of keeping the losses within reasonable and cost effective limits suggests strongly in favour of adopting as high a HVDC transmission voltage as possible. The planning of the transmission system as stated by CEA in the Note to the Ministry of Power is as under: -

“The first 800kV HVDC bi-pole line has been planned from a pooling substation at Bishwanath Chariyali in North-eastern Region to Agra in Northern region. This is being programmed for commissioning matching with Subansiri Lower HEP in 2011-12. The transmission line would be for 6000 MW capacity and HVDC terminal capacity would be 3000 MW between Bishwanath Chariyali and Agra. In the second phase, for transmission of power from hydro projects at Sikkim and Bhutan pooled at Sliguri, another 3000 MW terminal modules would be added between Sliguri and Agra.”

Accordingly, CEA suggested for implementation of the transmission system under a scheme titled “Inter-regional transmission system for power export from NER to NR / WR”. CEA further suggested to adopt national approach for development of the transmission system in which the beneficiaries outside NER would share the transmission charges of identified transmission system based on the power allocation from the NER Hydro projects. In a meeting dated 13.3.2007 taken by Secretary (Power), it was decided that the transmission system from NER to NR / WR would be required and the proposal for Public Investment Board (PIB) clearance for the project be initiated. Accordingly, a note for Public Investment Board was initiated by the Planning Commission (Project Appraisal and Management Division) on 7th April, 2008 in which the project was found suitable and optimal considering the right of way. In the meantime, the petitioner was notified as a „Navratna“ company and PIB clearance was no longer required. Investment approval was obtained from the Board of Directors of the petitioner. The development of subject transmission systems were also discussed in the Standing Committee Meetings on Power System Planning of Northern Region, Western Region and North-eastern Region from time to time.

26. In view of the process of planning, development and execution of the transmission system as discussed hereinabove, we are of the view that the subject transmission systems are of strategic and national importance and are in the long term interest of the economy and consumers of the country. The ± 800 kV Biswanath Chariyali-Agra HVDC link is the first of its kind in India and is passing through the “Chicken Neck” area. This HVDC asset once created will serve multiple purpose of evacuating hydro potential of North East, Sikkim and Bhutan to the rest of the country and would also carry power from Agra to Biswanath Charaiyali during lean hydro season in NER, thereby serving needs of North East Region as well. In addition to this, the link is serving very important role of integrating the entire Indian Electrical Grid through a robust link. This asset is a unique asset due to its location and strategic importance. This link is a strategically important and vital connection for harnessing the present and anticipated exploitation and optimal utilization of hydro, thermal and renewable energy resources in the country. The strategic importance of the line is established by the fact that a secure and strong linkage for the North-Eastern Region and the rest of the country is now firmly established. Pertinently, the extremely narrow “Chicken Neck” which is 18 km X 22 km has been



optimally utilized solving any future right of way issues in this critical, sensitive and vital area. Therefore, the setting up of such a powerful link is not only important but infuses a high degree of confidence, certainty and assurance for development of hydro power potential in North-East Region of the country, underlining the fact that no hydel development will have to face bottling up of power or backing down on account of transmission constraints...

As per the above, the Government of India mooted a proposal for harnessing the untapped hydro potential, with 40,000 MW of power to be evacuated from NER / Sikkim and Bhutan. As a consequence, the evacuation system would have required 14-16 transmission corridors passing through the "Chicken Neck" area, and in that context, it was desirable to implement the BNC-Agra HVDC system. The BNC-Agra line traverses through the difficult terrains of NER and ER and in the limited corridor available in the "Chicken Neck" area, which is a narrow patch of land measuring 22 km in width and 18 km in length near Siliguri, having borders with Nepal on one side and Bangladesh on the other. The area is also densely populated. Further, it was considered that the BNC-Agra HVDC line would help in strengthening the links of the rest of the National Grid to the NER Grid. Further, it was observed that since the transmission assets are of strategic and national importance whose benefits shall be derived by the entire country, the charges for the BNC - Agra HVDC assets should be shared by all the regions of the country. The Commission had impleaded all India DICs before deciding the sharing of transmission charges in the particular case through an order dated 8.1.2016.

- b) *Subsequently, the Government of India, Ministry of Power, vide letter dated 10.3.2017 sanctioned Rs.2889 crore from the Power System Development Fund (PSDF) and declared the BNC-Agra HVDC asset of national importance. After the Government of India declared the scheme to be of national importance, the Commission, vide order dated 31.8.2017 in Petition No. 67/TT/2015, noted as follows:*

"13. We reiterate our decision in Order dated 8.1.2016 and hold that considering the peculiar circumstances of these transmission assets to meet the energy needs of the country in future and development and utilization of the vast hydel resources in the northeast, we are of the considered view that the subject transmission assets be considered as assets of strategic and national importance and all DICs should bear the transmission charges in the short run for long term benefits. It is also pertinent to mention that MoP, Government of India has in its letter dated 10.3.2017 declared the assets as scheme of national importance. Accordingly, we confirm our decision in Order dated 8.1.2016 that the subject assets shall be treated as national assets and its charges shall be borne by all DICs"

- c) *Clearly, the reasons for consideration of BNC-Agra as an asset of strategic and national importance were as follows:*
- i. The high capacity HVDC was planned to evacuate huge hydro potential from NER/Sikkim/Bhutan.*
 - ii. The transmission system traverses through the chicken neck area with extreme Right of Way issues connecting North-East India to the rest of India.*
 - iii. It was envisaged that the hydro potential would be utilised by the entire country and not specific to any region or state.*



- d) The Statement of Reasons (SoR) of the third amendment to the 2010 Sharing Regulations, 2010 specifically provided as follows:

“for any new HVDC line, the Central Commission shall decide the methodology through an order. However, the above principle of sharing of transmission charges of HVDC lines may be reviewed based on the national transmission planning, if certain HVDC systems are planned to cater to multiple needs i.e., evacuation or reliability or Renewable integration or change in the benefits derived by the stakeholders”.

- e) After considering the submissions of All India DICs, the SoR provision, exploring the possibility of sourcing PSDF funds, and the declaration of national importance given to the BNC-Agra HVDC Transmission System by the Ministry of Power, it was decided that the sharing of transmission charges shall be done on all-India basis.

C. Planning of Raigarh-Pugalur HVDC

- a) The Raigarh-Pugalur HVDC has been planned to meet the specific demands of Southern Region states, on account of the huge power deficit conditions prevailing during the period of 2014 – 2015. The same was discussed in the 37th Standing Committee on Power System Planning in the Southern Region held on 31.7.2014. The relevant minutes of the meeting are as follows:

“5. System for increasing capacity of Inter-State Transmission system for import of power into SR up to 2018-19.

5.1 Director, CEA stated that Southern Region is facing power deficit which has arisen mainly due to – (i) delay/deferment of anticipated generation projects, for example, Krishnapattam UMPP (4000 MW), Cheyyur UMPP(4000 MW), Udangudi TPS, IPP projects in Nagapattanam/ Cuddalore area (3000 to 4000 MW), Kundankulam APP (2000 MW), Kalpakkam PFPR (500 MW), East coast project in Srikulam (1320 MW), Gas based projects in Vemagiri (about 3000 MW) etc. and (ii) also due to non-availability of gas for existing gas projects in Southern Region. Some of the constraints in import of power into Southern Region and delivering up to Kerala and Tamil Nadu has also been due to long delay in commissioning of important 400 kV transmission lines, for example, Mysore - Kozikode 400 kV D/C line (delayed by more than 7 years), Tirunelveli-Edamam-Cochin 400 kV D/c line (delayed by about 4 years) and Narendera-Kolhapur inter-regional 765 kV D/C line. Some constraints have also been caused due to delay in the transmission systems of states, for example, the system associated with Narsaropeta, Vijaywada, Hyderabad & Kakatiya TPS in Andhra Pradesh, system associated with Yerramur TPS and non-finalisation of land for New Narendera in Karnataka and transmission system for wind projects and North Chennai TPS in Tamil Nadu.

5.2 He further stated that joint studies were carried out by CTU and CEA to facilitate import of 16000 MW power to Southern region by 2018-19 based on the pessimistic scenario of non-availability / delay in commissioning of some of the generation projects in Southern region. The system was tested for contingencies including total outage of an entire inter-regional link and other critical regional lines for reliability.

5.3 Accordingly, the following transmission schemes were put up for discussion in the meeting:

...



B. Scheme-II: HVDC Bipole link between Western region (Chhattisgarh) and Southern region (Tamil Nadu)

- (i) Raigarh(HVDC Stn) – Pugalur (HVDC Stn) 6000 MW HVDC bipole*
- (ii) Establishment of Raigarh HVDC Stn and Pugalur HVDC Stn with 6000 MW HVDC terminals (with alternate of having 3000 MW in first phase)*
- (iii) Raigarh HVDC Station – Raigarh(Existing) 400kV (quad) 2xD/c lines (or with bay extension)*
- (iv) Pugalur HVDC Station – Pugalur (Existing) 400kV (quad) D/c line.*
- (v) Pugalur HVDC Station – Arasur 400kV (quad) D/c line with 80 MVAR switchable line reactor at Arasur end.*
- (vi) Pugalur HVDC Station – Thiruvalam 400kV (quad) D/c line with 80 MVAR switchable line reactor at both ends.*
- (vii) Pugalur HVDC Station – Edayarpalayam 400 kV (quad) D/c line with 63 MVAR switchable line reactor at Edayarpalayam end.*
- (viii) Edayarpalayam – Udumulpeta 400 kV (quad) D/c line.*
- (ix) Establishment of 400/220kV substation with 2x500 MVA transformers at Edayarpalayam and 2x125 MVAR bus reactors.*

.....

5.6 TSTRANSCO and TANGEDCO suggested that the Raigarh-Pugalur HVDC may be implemented by POWERGRID due to urgent need of power transfer to SR.

5.8 DGM (CTU) stated that the experience of implementation of Champa-Kurukshetra HVDC line in two phases suggests that phase wise implementation may involve number issues such as contractual and complexity in integration of two modules especially when these are supplied by different manufacturers. Further, since the power shortage in Southern region is very high which is likely to remain so for a long time and as such the requirement of second phase may be envisaged within a very short span of time, it may be implemented as 6000 MW capacity HVDC in a single phase.

5.9 In this regard, KSEB suggested that the drawl of power from the proposed 6000 MW HVDC may be divided with 4000 MW terminal at Pugalur and balance 2000 MW may be extended to Kerala as the state is facing acute power shortage.

5.11 Director KSEB explained that out of the estimated hydro-electric potential of about 6000 MW in the state, Kerala could harness only about 2040 MW so far, Further, no hydro projects with storage sufficient to provide peak support during summer is not possible due to environmental concerns. Hence, to meet the demand, the only option for the State is to import power from outside. It is estimated that an additional import capability of around 2000 MW by year 2018 and 4000 MW by year 2022 will become quite essential for meeting the forecasted demand of about 5000 MW and 6100 MW respectively (as per 18th EPS) for the time frame under consideration.

.....

5.12 Based on the above discussions, it was agreed to have a 6000 MW HVDC link from Raigarh, Chhattisgarh to Southern Region. Regarding building this link as a multi terminal HVDC, with one inverter station of 4000 MW at Pugalur and another inverter station of 2000 MW capacity at Madakkathara in Kerala, it was decided that the same would be explored and finalized in next meeting of SCPSP.”

- b) It is observed that the Raigarh-Pugalur HVDC transmission system was planned to meet the shortage in the Southern Region. KSEB has specifically mentioned that out of the*



estimated hydroelectric potential of about 6000 MW in the state, Kerala could harness only about 2040 MW so far, and to meet the demand, the only option for the state was to import power from outside. It is pertinent to note that when the system was planned in SCM meetings, nothing was mentioned about reverse flow or surplus RE power in the Southern Region.

c) Further, minutes of the 25th SRPC meeting held on 14.7.2014 are as follows:

“13.13 Chairman, TNEB opined that keeping in view the fate of lines being developed by private developers such as Talcher “back up” scheme, it may be prudent to recommend to MoP that the proposed HVDC link between Raigarh – Pugalur be developed by PGCIL at the earliest. It was to be highlighted that only PGCIL had the desired technical as well as financial expertise to take up such a project in a timely manner. MoP was also needed to be appraised that this project could not be executed through the TBCB route keeping in view the distance and technology involved. He requested all States to take up this issue at the Government level also.

13.14 The Committee agreed to recommend that the proposed HVDC link between Raigarh - Pugalur be developed by PGCIL.”

d) CTUIL vide affidavit dated 12.9.2023 has submitted developments after the system was planned in 2014 as follows:

(i) In the 1st Meeting of the Southern Region Power Committee (Transmission Planning) held on 16.12.2019, when the transmission system for RE projects in the State was reviewed, TANGEDCO highlighted the need for a tangible plan to bring the Raigarh-Pugalur-Trissur HVDC system into beneficial use so as to avoid the upgrade of the existing ISTS corridor. The matter was also deliberated in the 38th Meeting of the Southern Region Power Committee held on 23.12.2020, wherein SR constituents expressed concern about the beneficial utilization of the HVDC Raigarh-Pugalur-Trissur corridor in view of the surplus scenario and optimistic RE capacity addition projections in SR. The Southern Region Load Despatch Centre (SRLDC) stated that, in view of the surplus scenario and optimistic RE capacity addition projections, this HVDC could also be used for the export of power. It was deliberated that the Raigarh-Pugalur-Trissur HVDC system could operate in reverse mode with minor investment at Raigarh through the augmentation of ICTs.

(ii) A Joint Study Meeting of SR constituents was held on 30.6.2022-2.7.2022 to discuss various transmission proposals, where CTU clarified that based on the feedback received from POSOCO, adequate ICT augmentation has been planned and is being implemented at Raigarh & Kotra sections in WR to facilitate operation of the Raigarh-Pugalur HVDC link in reverse mode, and with this augmentation, power flow of the order of 3000 MW may be exported through Raigarh-Pugalur HVDC to the NEW grid. In this manner, the reverse flow on the Raigarh-Pugalur system (to the extent of 3000 MW) was to take place after adequate ICT augmentation at the Raigarh and Kotra sections in WR. The records of said meeting held on 30.6.2022-2.7.2022 note as follows:

“SRLDC requested that options may be explored for utilization of HVDC links like Raigarh-Pugalur HVDC and Talcher-Kolar HVDC in reverse mode for export of surplus power during peak RE scenario. Towards this, CTU clarified that based on the feedback received from POSOCO, adequate ICT augmentation has been planned and is being implemented at Raigarh & Kotra section in WR to facilitate operation of Raigarh-Pugalur HVDC link in



reverse mode. With this augmentation, power flow of the order of 3000 MW may be exported through Raigarh-Pugalur HVDC to NEW grid. SRLDC opined that options may also be explored for further enhancing the capacity of reverse power flow to 6000 MW on Raigarh-Pugalur HVDC. In this regard, CTU clarified that Raigarh-Pugalur HVDC has been designed for reverse power flow upto 3000 MW. However, the matter for enhancement of the same to 6000 MW shall be suitably taken-up with POWERGRID to explore the feasibility of the same.”

- e) We observe from the above-mentioned submissions of CTUIL that during the year 2019-2020, TANGEDCO and other Southern Region constituents expressed concern about the beneficial utilization of the HVDC Raigarh-Pugalur-Trissur corridor in view of the surplus scenario and optimistic RE capacity addition projections in the Southern Region, to which CTU clarified that the reverse flow on the Raigarh-Pugalur system (to the extent of 3000 MW) was to take place after adequate ICT augmentation at the Raigarh and Kotra sections in WR.
- f) We also observe that during the SRPC meeting held on 22.12.2020, CTUIL was of the view that there is an uncertainty in the projected surplus in SR and the Raigarh-Pugalur HVDC system can operate in the reverse mode by minor investment beyond Raigarh by augmenting of ICTs, but before going ahead with any investment for reverse mode operation, the capacity to be exported should be ascertained. Further CTU submitted during the said meeting that if the forum approves investment for reverse mode operation, the proposal for beneficial utilization of the system would be put up to SRPC (TP) in the next meeting. The relevant portions of the minutes of said meeting are as follows:

“ Proposed by: KSEBL vide letter dated 07.12.2020 (refer Annexure-C.5.1)

Background:

a) CERC (Sharing of transmission charges & losses) Regulations 2020 came into effect from

01.11.2020.

b) Subsequent to 37th Meeting of SRPC (01.02.2020), Chairperson, SRPC vide letter dated 02.06.2020 (Annexure-C.6.1.b) had taken up the issue with Secretary(P) to declare Raigarh (Chhatisgarh)-Pugalur (TN) HVDC &Pugalur (TN) – Trissur (KER) HVDC system as national and strategic projects and the cost could be shared by all the DICs.

c) In the 37th meeting of TCC (28.10.2020), the forum had agreed in principle for declaring the whole assets of Raigarh (Chhatisgarh)-Pugalur (TN) HVDC &Pugalur (TN) – Trissur (KER) HVDC system as national and strategic projects/components and accordingly CERC may be approached.

i. In the 46th meeting of Commercial Sub-Committee (03.12.2020), the following had been noted:

□ **TANGEDCO: expressed concern on beneficial utilization of the corridor HVDC Raigarh (Chhatisgarh)-Pugalur (TN)-Trissur (KER) corridor (6000 MW) in view of present surplus scenario and optimistic RE capacity addition projections and tariff burden on SR entities after part commissioning of this system. CTU may come up with action plan for utilizing the corridor for exporting surplus RE power to WR so that CERC may be approached for considering this asset under National Component for sharing the transmission charges.**



□ CTU: Raigarh–Pugalur-Trissur HVDC system was planned to facilitate for import of power to SR. Part commissioning /commercial operation of the system is being carried out in consultation with/approval of CEA and constituents for better utilization of the system. As per the joint study conducted considering the RE addition of 18.5 GW in SR at ISTS and state connectivity, there would be a surplus 29000MW in SR. As per the Minutes of the meeting (Annexure-C.6.1.c.i) taken by Secretary, MNRE on 22nd October 2020, LTA applications have not been received yet for Kurnool(AP)- 2500 MW + 3000MW capacity, Anantapur (AP)- 2500 MW capacity, Bidadi (Karnataka)- 2500MW capacity and Karur (Tamil Nadu)- 2500MW capacity and it was decided that these cases may not be pursued further.

In view of these developments, there is an uncertainty in the projected surplus in SR. Raigarh-Pugalur HVDC system can operate in the reverse mode by minor investment beyond the Raigarh by augmenting of ICTs. But going ahead with any investment for reverse mode operation, the capacity to be exported should be ascertained. Declaration of HVDC Raigarh (Chhatisgarh)-Pugalur (TN)-Trissur (KER) system as national asset is under the purview of CERC

□ Commercial Sub-Committee had recommended that the issue may be put up to TCC/SRPC for taking up with CERC.

d) SRLDC vide mail dated 11.12.2020 (Annexure-C.6.1.d.): Timely submission of data for determining the transmission charges of the state under AC usage-based component.

Issue:

KSEBL: In the 37th meeting of TCC, it was agreed in principle for declaring the whole assets of Raigarh(Chhatisgarh)-Pugalur (TN) HVDC & Pugalur(TN)–Trissur (KER) HVDC system as national and strategic projects/components. SRPC may follow up with MoP/CERC in this regard.

SRLDC: All the DICs are requested form timely submission of Basic Network data, Load Generation details along with transmission line outages for the peak-block, as the Load-flow analysis would determine the transmission charges of the state under AC usage based component.

6.2 TCC deliberation:

- i. SRLDC: Requested all the DICs for timely submission of Basic Network data, Load Generation details along with transmission line outages for the peak-block.
- ii. KSEBL: As agreed in the 37th meeting of TCC, SRPC may take up with MoP/CERC for declaring the entire asset Raigarh – Pugalur HVDC & Pugalur-Trissur HVDC system as national and strategic projects/components.
- iii. TANGEDCO: Beneficial utilisation of the asset and declaring the asset as national component for sharing transmission charges are the two aspects to be deliberated. CTU may come up with action plan for utilizing the corridor for exporting surplus RE power to other regions. Entire corridor may be not beneficial. In future for any RE capacity addition in SR and envisaged the proposal of transfer of RE power to other regions, CTU to first explore the possibility of utilising the corridor to the maximum and then only augmentation of AC corridor at Raigarh end to be thought of. CERC may be approached for considering Raigarh – Pugalur HVDC & Pugalur- Trissur HVDC system under



National Component for sharing the transmission charges in line with the BNC-Agra HVDC system. Requested CTU to submit their recommendation to CERC for declaring the asset as national component through affidavit along with Tariff petition.

iv. CTU: Three meetings were held and it was decided that transmission system for RE integration would be taken up for implementation only after the grant of LTA. In the meeting taken by Chief Engineer, CEA on 12.10.2020, it was reiterated that the transmission system shall be developed only after the grant of LTA, submission of construction phase bank guarantee by the applicant and identification of LTTCs. CTU has not received LTA application for the 18.5 GW RE potential identified in SR. The available transmission system would be best utilised for export of power to other region in the surplus scenario of SR. **If the forum approves investment for reverse mode operation, the proposal for beneficial utilization of the system would be put up to SRPC (TP) in the next meeting.**

Since Raigarh – Pugalur - Trissur HVDC system is huge, it is difficult to complete all the transmission elements in synchronous way. Part commissioning of the system is being carried out with the approval of CEA. Utilization factor of the system may improve after fully operationalization of the entire system.

v. On a query from TSTRANSCO on the criteria of declaring transmission asset as national component, CTU stated that consideration of transmission asset as national component for sharing transmission charges is under the purview of CERC. However, CTU could recommend the asset for consideration under national component.

vi. SRLDC: In view of surplus scenario and optimistic RE capacity addition projections, this HVDC system would be used for export of power also. As such the entire asset Raigarh – Pugalur HVDC & Pugalur- Trissur HVDC system could be considered as national component for sharing the transmission charges.

vii. APTRANSCO: There is no urgency for additional investment for export of power through HVDC Raigarh- Pugalur link. The available AC links would be sufficient for exporting surplus power to other regions. Once materialisation of the identified RE potential is confirmed, additional investment etc. could be considered for export of power through Raigarh – Pugalur HVDC link.

viii. All States requested CTU to come up with action plan for beneficial utilization of the corridor without any additional investment for export of surplus power.

ix. Chairperson TCC: CTU and POSOCO may recommend to CERC for considering the entire HVDC system under national component. SRPC may take up with MoP/CERC.

x. Recommendation:

Chairperson, SRPC may be requested to take up with MoP/CERC for declaring the Raigarh (Chhatisgarh)-Pugalur (TN) HVDC & Pugalur (TN) – Trissur (KER) HVDC system as national/strategic project/ national component.

6.3 SRPC Deliberation:

i. Chairperson, SRPC stated that this is one of the important items affecting all the SR constituents, as per the new transmission charges sharing regulations the liability of each state is going up. If this asset is treated as regional asset, burden on



SR constituents would increase. As recommended by TCC, the entire HVDC system needed to be declared as strategic projects/components and national component. Apart from Chairperson, SRPC taking up, all the states also may take up with CERC individually.

ii. Decision/Approval:

Chairperson, SRPC to take up with MoP/CERC for declaring the Raigarh (Chhatisgarh)-Pugalur (TN) HVDC & Pugalur (TN) – Trissur (KER) HVDC system as national/strategic project/national component for sharing the transmission charges.

It may also be noted from the above minutes that, APTRANSCO stated that there is no urgency for additional investment for the export of power through the HVDC Raigarh-Pugalur link and that the available AC links would be sufficient for exporting surplus power to other regions, once materialisation of the identified RE potential is confirmed, additional investment, etc. could be considered for the export of power through the Raigarh – Pugalur HVDC link. This implies that there was uncertainty about the materialisation of RE potential and that consensus was not there to make additional investments for the export of power through the subject transmission system. We also note that the Chairperson, SRPC stated during the above-mentioned meeting that, as per the new transmission charges sharing regulations, the liability of each state is going up. if this asset is treated as a regional asset, the burden on SR constituents would increase, and therefore the entire HVDC system would need to be declared as strategic projects/components and National Component.

- g) We also observe that, as per data furnished by GCIL, the reverse flow of 3000 MW was established for the first time in May 2022. GCIL, in its submissions dated 10.10.2023, has further submitted the planning data for ISTS by CTUIL as follows:

- a. inter-State Transmission System (ISTS) Rolling Plan (2027-28) by CTUIL provides details on Inter-regional flows between various regions, based on simulation studies for the 2027-28 timeframe. The power flow on inter-regional corridors for all nine scenarios is as follows:

IR Flows		Aug'27 (Monsoon)			Jun'27 (Summer)			Feb'28 (Winter)		
Corridor	Scenario No.	1	2	3	4	5	6	7	8	9
		Solar Max	Peak Load	Off Peak	Solar Max	Peak Load	Off Peak	Solar Max	Peak Load	Off Peak
WR-NR		-5162	21327	19939	-6679	23033	18092	-21773	739	829
ER-NR		-11427	-2241	-734	-6379	6207	3519	-6857	4331	1760
ER-WR		-9392	-9128	-10167	-5993	-6260	-6105	-2439	848	123
ER-SR		2557	1743	2012	2947	2104	2973	5445	4096	4832
WR-SR		-2466	-10910	-8694	-4613	-12677	-9362	10400	5957	10360
NER-ER		-1376	-1342	-1067	-1137	-409	-447	-2300	-1422	-1359

IR flows between regions based on simulation studies

- b. Power on WR-SR is flowing towards WR in the Monsoon and summer seasons with a maximum flow of 12 GW whereas in the winter season, power is flowing towards SR with a maximum flow of 10.4 GW. HVDC Raigarh-



Pugalur Power Order set by CTUIL in the study cases for each scenario is as follows:

HVDC Raigarh to Pugalur Power Order (MW)	Aug'27 (Monsoon)			Jun'27 (Summer)			Feb'28 (Winter)		
	Solar Max	Peak Load	Off Peak	Solar Max	Peak Load	Off Peak	Solar Max	Peak Load	Off Peak
	2000	-2500	-2500	2000	-2500	-3000	6000	6000	6000

- c. In four out of nine scenarios, the HVDC link has been considered in the reverse direction. If we consider the nine scenarios of equal duration in a year, then it may be approximated that HVDC may operate in the reverse direction for 44.4% of the time for year 2027-28.

97. After considering the factual position with respect to the three HVDCs in the preceding paragraphs, we now deal with the issue of **whether the instant transmission assets stand on a different footing, justifying different treatment compared to the other two HVDCs under reference.**

98. The APTEL has remanded the matter to pass a fresh order in light of the observations in the APTEL's judgement and also consulting the statutory authorities, i.e. CEA, GCIL, and CTUIL, and the MOP's letter dated 30.5.2022. The relevant extract of APTEL's judgement is as follows:

"30. We appreciate the views of the CTU and in the light of the above mentioned Orders, Statement of Reasons to the Sharing Regulations, 2020, and the fact that Raigarh-Pugalur HVDC transmission link will also be utilized for export of power outside the Southern Region (bi-directional) (on account of surplus scenario and optimistic RE capacity addition projections), the HVDC transmission link is likely to be utilized for both import and export of power under various operating conditions and may be considered as National Component under the Sharing Regulations, 2020.

31. It cannot be disputed that Tamil Nadu and other Southern Regional States are RE rich States and the resources will be shared for the benefit of the entire country, it was also submitted by the Appellant that the loan for the instant asset was sought from the Asian Development Bank citing it as a Renewable Energy Corridor.

32. Therefore, the submissions of the Appellant under these circumstances find merit, for considering the Raigarh — Pugalur HVDC transmission system as assets of strategic and national importance in line with the other HVDC systems so that the charges are shared on all India basis. "



103. We have considered the submissions of the Respondents. The APTEL has also directed that the MoP's letter dated 30.5.2022 be considered, which is quoted here:

"4. Accordingly, CERC is requested to consider transmission charges of all HVDC interregional links under National Component [100% transmission charges to be borne by all Designated Inter-State Transmission Customers], provided that

i) There is certain quantum of bi-directional power flow through the concerned HVDC inter-regional link.

ii) The quantum of bi-direction power flow [for considering 100% of transmission charges of the link under National Component may be decided by CERC in consultation with stakeholders including POSOCO, CEA and CTU]."

As per above, the MoP has suggested including inter-regional HVDC under the "National Component" based on a certain quantum of bi-directional flow to be decided in consultation with CEA, GCIL, and CTUIL.

104. We observe that CEA has not recommended declaring the said HVDC line as of national and strategic importance and has suggested considering 50% under the National Component since its capacity in reverse direction is only 50% at present. GCIL and CTUIL have also not furnished any views on declaring the transmission system an asset of national and strategic importance. CTUIL has recommended the inclusion of the asset under the National Component, whereas GCIL has not given any opinion with respect to any percentage of charges that should be included in the National Component.

105. We note that, as of now, only BNC-Agra HVDC has been considered an asset of strategic and national importance. The other HVDC line, namely Mundra-Mohindergarh, has not been considered an asset of strategic and national importance. We observe that an asset can be of strategic and national importance for various reasons. The same yardstick may not be applicable for all cases under consideration. The yardstick for qualifying BNC-Agra HVDC as strategic was that it was planned and executed for tapping the huge hydro potential in NER/Sikkim/Bhutan and evacuating the harnessed hydropower through the chicken-neck, having challenging physical terrain, for the benefit of the entire country. BNC-Agra was not planned for any specific region, whereas the present transmission system was planned to meet the demand of the Southern Region as it was facing a huge power deficit. Kerala had specially mentioned the need for the import of power in view of the limited hydro capacity in the State of Kerala. TANGEDCO (then TNEB) specifically requested the Petitioner to execute the HVDC on an urgent basis during the 25th SRPC meeting held on 26.7.2014. The Chief Minister of Tamil Nadu, presented a Memorandum dated 10.6.2014 to the Prime Minister for urgent implementation of the said transmission system so as to cater to the power requirements of the state. It is noted that nowhere during the planning, was the aspect of national importance or reverse power flow discussed with respect to the transmission system. CEA mentioned in its submissions that during the planning of the transmission system, the SR constituents were in full agreement with the need for this HVDC for SR. It is only since 2018-2019 when the export of power from SR was observed to be around 3600 MW and further increased to 7900 MW in 2022-23, that the demand for its inclusion under the National Component was raised. The criterion to consider the transmission system for enhancement of percentage of transmission charges beyond 30% under the National



Component is the bidirectional flow, as noted in paragraph 30 of the APTEL's Judgement dated 18.7.2023 quoted as follows:

"30. We appreciate the views of the CTU and in the light of the above mentioned Orders, Statement of Reasons to the Sharing Regulations, 2020, and the fact that Raigarh-Pugalur HVDC transmission link will also be utilized for export of power outside the Southern Region(bi-directional) (on account of surplus scenario and optimistic RE capacity addition projections), the HVDC transmission link is likely to be utilized for both import and export of power under various operating conditions and may be considered as National Component under the Sharing Regulations, 2020."

106. We observe that there are other evacuation HVDC lines where 70% of the transmission charges are being shared by the regions for whom they were created. In such instances, mainly NR and SR are load centres for whom HVDCs have been planned. An illustrative list of such HVDC cases is as follows.

Sl No	Name of the HVDC	Type	Associated Regions (Forward Direction)	Paid by
1	+/- 500 kV, 2x1000 MW Talcher-Kolar HVDC	Bipole	ER-SR	70% SR
2	+/- 500 kV Rihand-Dadri HVDC	Bipole	NR-NR	70% NR
3	+/- 800 kV Champa - Kurukshetra (4*1500 MW)	Bipole	WR - NR	70% NR
4	+/- 500 kV Balia-Bhiwadi HVDC	Bipole	NR-NR	70% NR

Out of the above HVDCs, Champa-Kurukshetra HVDC was commissioned after BNC-Agra but before Raigarh-Pugalur, and 70% of its charges are paid by NR.

107. We would like to observe here that even the transmission systems planned for RE are not declared to be of national and strategic importance. However, their charges are included in the "National Component" under the 2020 Sharing Regulations for the purpose of sharing by all India DICs.

108. The 2020 Sharing Regulations have included the concepts of a National Component, a Regional Component and a Transformer Component. It is noted that TANGEDCO and other SR beneficiaries have suggested considering instant transmission asset of national importance based on the use of this HVDC for exporting RE power so that transmission charges for said HVDC are shared by all India beneficiaries. We note that an asset can be included in the National Component (by way of amendment in regulations) even when it is not considered as one of national importance. For instance, the back to back HVDCs, transmission systems planned for RE, etc. have been included in the National Component without any need to declare them of national importance. Therefore, the declaration of an asset as of national importance is not a precondition for the inclusion of its charges under the National Component.



109. *Keeping in view the above discussions, we observe that, unlike the instant transmission asset, which was created for the drawl of power by the Southern region, the BNC-Agra HVDC system was not created for the drawl of power by any particular region. The BNC-Agra HVDC system was considered an asset of national importance due to its peculiar circumstances, strategic reasons, and the evacuation of hydropower from the North Eastern Region and Sikkim. We are of the view that the grounds that the instant HVDC transmission system can carry power in both directions cannot be compared with the circumstances of and treatment given to the BNC-Agra line. In fact, consideration of a HVDC transmission asset as of national and strategic importance is not a precondition for enhancement of transmission charges under the National Component. What is relevant in the context of the instant transmission asset is whether there is a case for increasing the percentage of transmission charges beyond 30% under the National Component, and this aspect is dealt with in Issue No.3 below.”*

101. Upon careful perusal of the above findings in our order dated 30.10.2023 in Petition No. 685/TT/2020 (on remand), we are of the considered view that facts pertaining to the drawal of power with regard to the instant assets are different from the BNC-Agra HVDC system. The BNC-Agra HVDC system was considered an asset of national importance due to its peculiar circumstances, strategic reasons, and the evacuation of hydro power from the North Eastern Region and Sikkim. We are of the view that the instant HVDC transmission system cannot be compared to the facts, circumstances, and treatment given to the BNC-Agra line. In fact, consideration of an HVDC transmission asset as of national and strategic importance is not a precondition for the enhancement of transmission charges under the national component. What is relevant in the context of the instant transmission assets is whether there is a case for increasing the percentage of transmission charges beyond 30% under the national component, and this issue is dealt with in Issue No. 3 below.



Issue No.3: What should be the treatment of the sharing of transmission charges for the instant asset from its declared COD?

102. TANGEDCO has contended that the 2010 Sharing Regulations under Section 178 (2) (j), (k), (l), and (m) read with Sections 38 and 40 of the Act notified the methodology for sharing the transmission charges and losses of inter-State Transmission Systems as per the mandate of Section 61 of the Act. The 2010 Sharing Regulations were in force until 31.10.2020. The Commission notified the 2020 Sharing Regulations, which came into force on 1.11.2020. The 2020 Sharing Regulations repealed the 2010 Sharing Regulations. As on the date of COD of the transmission system, the 2010 Sharing Regulations were in force, and in line with the provisions under the Statement of Reasons to the 2010 Sharing Regulations as adopted by the Commission in the case of Biswanath Chariali-Agra, the subject Raigarh-Pugalur-Trissur (RPT) HVDC system/transmission assets qualify to be declared as a 'National Asset' and its charges to be recovered under 'National Pool'.

103. AP Discoms have contended that the subject HVDC system is of National Importance and that the transmission tariff for all its elements, including the transmission assets, should be borne on an all-India basis. Accordingly, the transmission tariff for the subject HVDC system should be included under the National Component of the 2020 Sharing Regulations.

104. Assets-1 and 2 in the Petition No. 173/TT/2021 have achieved COD on 9.3.2021 and 13.7.2021, respectively. Similarly, the Asset " ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)" in Petition No. 242/TT/2021 has also achieved the COD as on 25.10.2021. The



Commission, vide order dated 22.2.2023 in Petition No. 173/TT/2021 and order dated 16.2.2023 in Petition No. 242/TT/2021, with respect to the sharing of transmission charges of the transmission assets from the date of COD until 31.3.2024, observed as follows:

Order dated 22.2.2023 in Petition No. 173/TT/2021

"105. We have considered the submissions of the Petitioner and Respondents. The transmission project consists of HVDC components (Scheme-1 and Scheme-3) and AC components (Scheme-2). The Petitioner has filed separate petitions pertaining to HVDC components under Scheme-1 (Petition No. 685/TT/2020, Petition No. 173/TT/2021 and Petition No. 242/TT/2021) and Scheme-3 (Petition No. 172/TT/2021). Accordingly, the sharing of transmission charges specific to HVDC portion is being dealt by the Commission in relevant petitions filed by the Petitioner. In this connection, the Commission vide order dated 29.9.2020 in Petition No. 685/TT/2020 has already dealt with the sharing of charges of +800 kV (6000 MW) Raigarh-Pugalur HVDC link and Pole-I (1500 MW) covered under Scheme-1 of the transmission project.

106. The transmission assets covered under the instant petition pertains to Scheme-1 of the transmission project, which are Asset-1: ±800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station) and Asset-2: ±800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

107. The Commission vide order dated 29.9.2022 in Petition No. 685/TT/2020 has held as follows:

"131. We are of the view that the Commission is not the appropriate forum for declaring any transmission asset to be of national and strategic importance. It is further observed that transmission system being of national importance and a transmission system considered as a National Component are two different aspects. Therefore, we are not inclined to approve the 100% yearly transmission charges of Raigarh-Pugalur-Trissur HVDC system under National Component.

132. KSEB, TANGEDCO, BESCO, TSSPDCL and TSNPDCL have contended that the transmission asset will serve the purpose of evacuation of RE power from Southern Region to the rest of the country. We are of the view that if need be to consider the sharing based on bi-directional flow of Raigarh-Pugalur-Thrissur HVDC transmission system due to change in load-generation mix, the same shall be dealt with by the Commission at the appropriate stage."

108. In view of the above, if there is need to consider the sharing based on bi-directional flow of the instant HVDC transmission system due to change in load-generation mix, the same shall be dealt with by the Commission at the appropriate stage. At present, with effect from 01.11.2020, the sharing of transmission charges is governed by the provisions of the 2020 Sharing Regulations. The COD of Asset-1 and Asset-2 is 9.3.2021 and 13.7.2021 respectively. As per minutes of SCM/RPC, the instant HVDC system i.e. Raigarh (HVDC Station)-Pugalur (HVDC Station) HVDC link is developed as System Strengthening Scheme. Therefore, the transmission charges for Asset-1: ±800 kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station) and Asset-2: ±800 kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station) shall be shared as per Regulation 5 and Regulation 6 of the 2020 Sharing Regulations.



109. Regulation 5 and Regulation 6 of the 2020 Sharing Regulations provide as follows:

“5. Components and sharing of National Component (NC)

(1) National Component shall be sum of the following components:

(a) National Component-Renewable Energy (NC-RE); and

(b) National Component-HVDC (NC-HVDC).

(2).....

(3) National Component-HVDC shall comprise of the following:

(a) 100% of Yearly Transmission Charges for “back-to-back HVDC” transmission system;

(b) 100% of Yearly Transmission Charges for Biswanath-Chariali/ Alipurduwar to Agra HVDC transmission system;

(c) Yearly Transmission Charges of Mundra–Mohindergarh 2500 MW HVDC transmission system corresponding to 1005 MW capacity

Provided that Yearly Transmission Charges corresponding to 1495 MW for the said transmission system shall be borne by M/s Adani Power (Mundra) Limited or its successor company; and

(d) 30% of Yearly Transmission Charges for all other HVDC transmission systems except those covered under sub-clauses (a), (b) and (c) of this clause of this Regulation.

(4) The Yearly Transmission Charges for the National Component shall be shared by all drawee DICs and injecting DICs with untied LTA in proportion to their quantum of Long Term Access plus Medium-Term Open Access and untied LTA respectively.”

“6. Components and sharing of Regional Component (RC)

(1) Regional Component shall be sum of the following components:

(a) Regional Component of HVDC (RC-HVDC) comprising of 70% of Yearly Transmission Charges of HVDC transmission systems planned to supply power to the concerned region, except HVDC transmission systems covered under sub clauses (a),(b) and (c) of Clause (3) of Regulation 5; and

.....

(3) Yearly Transmission Charges covered under sub-clause (b) of Clause (1) of this Regulation shall be shared by drawee DICs of the region and injecting DICs (with untied LTA) of the same region, in proportion to their quantum of Long-Term Access plus Medium Term Open Access and untied LTA, respectively.”

110. In view of the above, as per Regulation 5(3)(d) and Regulation 6(1)(a) of the 2020 Sharing Regulations, 30% of the Yearly Transmission Charges (YTC) with effect from COD of the transmission assets shall be part of National Component and 70% of yearly transmission charges for Raigarh-Pugular-Thrissur system is under Regional Component.

Order dated 16.2.2023 in Petition No. 242/TT/2021

“107. We have considered the submissions of the Petitioner and Respondents. The transmission project consists of HVDC components (Scheme-1 and Scheme-3) and AC components (Scheme-2). The Petitioner has filed separate petitions pertaining to HVDC components under Scheme-1 (Petition No. 685/TT/2020, Petition No. 173/TT/2021 and Petition No. 242/TT/2021) and Scheme-3 (Petition No. 172/TT/2021). Accordingly, the sharing of transmission charges specific to HVDC portion is dealt by the Commission in relevant petitions filed by the Petitioner. The Commission vide order dated 29.9.2020 in



Petition No. 685/TT/2022 has already dealt with the sharing of charges of +800 kV (6000 MW) Raigarh-Pugalur HVDC link and Pole-I (1500 MW) covered under Scheme-1 of the transmission project.

108. The transmission asset covered in the instant petition pertain to Scheme-1 of the transmission project, which is ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station).

109. The Commission vide order dated 29.9.2022 in Petition No.685/TT/2020 has held as follows:

“131. We are of the view that the Commission is not the appropriate forum for declaring any transmission asset to be of national and strategic importance. It is further observed that transmission system being of national importance and a transmission system considered as a National Component are two different aspects. Therefore, we are not inclined to approve the 100% yearly transmission charges of Raigarh-Pugalur-Trissur HVDC system under National Component.

132. KSEB, TANGEDCO, BESCO, TSSPDCL and TSNPDCL have contended that the transmission asset will serve the purpose of evacuation of RE power from Southern Region to the rest of the country. We are of the view that if need be to consider the sharing based on bi-directional flow of Raigarh-Pugalur-Thrissur HVDC transmission system due to change in load-generation mix, the same shall be dealt with by the Commission at the appropriate stage.”

110. In view of the above, if the sharing in respect of the transmission asset covered in the instant petition is required to be considered based on bi-directional flow of Raigarh-Pugalur-Thrissur HVDC transmission system due to change in load-generation mix, the same shall be dealt with by the Commission at the appropriate stage. However, with effect from 1.11.2020, the sharing of transmission charges is governed by the provisions of the 2020 Sharing Regulations. As per minutes of SCM/RPC, the instant HVDC System i.e. Raigarh (HVDC Station)-Pugalur (HVDC Station) HVDC link is developed as System Strengthening Scheme. Therefore, transmission charges for the transmission asset i.e., ± 800 kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) and Pugalur (HVDC Station) shall be shared as per Regulation 5 and Regulation 6 of the 2020 Sharing Regulations.

111. Regulation 5 and Regulation 6 of the 2020 Sharing Regulations provide as follows:

“5. Components and sharing of National Components (NC) (1) National Component shall be sum of the following components:

(a) -----” and
(b) National Component-HVDC (NC-HVDC).

(2)-----.

(3) National Component-HVDC shall comprise of the following:

(a) 100% of Yearly Transmission Charges for “back-to-back HVDC” transmission system;

(b) 100% of Yearly Transmission Charges for Biswanath-Chariali/ Alipurduwar to Agra HVDC transmission system;

(c) Yearly Transmission Charges of Mundra–Mohindergarh 2500 MW HVDC transmission system corresponding to 1005 MW capacity Provided that Yearly Transmission Charges corresponding to 1495 MW for the said transmission system shall be borne by M/s Adani Power (Mundra) Limited or its successor company; and



(d) 30% of Yearly Transmission Charges for all other HVDC transmission systems except those covered under sub-clauses (a), (b) and (c) of this clause of this Regulation.

(4) The Yearly Transmission Charges for the National Component shall be shared by all drawee DICs and injecting DICs with untied LTA in proportion to their quantum of Long-Term Access plus Medium-Term Open Access and untied LTA respectively.”

“6. Components and sharing of Regional Component (RC) (1) Regional Component shall be sum of the following components:

(a) Regional Component of HVDC (RC-HVDC) comprising of 70% of Yearly Transmission Charges of HVDC transmission systems planned to supply power to the concerned region, except HVDC transmission systems covered under sub clauses (a), (b) and (c) of Clause (3) of Regulation 5; and -----

(3) Yearly Transmission Charges covered under sub-clause (b) of Clause (1) of this Regulation shall be shared by drawee DICs of the region and injecting DICs (with untied LTA) of the same region, in proportion to their quantum of Long-Term Access plus Medium-Term Open Access and untied LTA, respectively.”

112. In view of the above, as per Regulation 5(3)(d) and Regulation 6(1)(a) of the 2020 Sharing Regulations, 30% of the Yearly Transmission Charges (YTC) with effect from COD of the transmission asset shall be part of National Component and 70% of Yearly transmission charges for Raigarh-Pugalur-Thrissur System is under Regional Component.”

105. We observe that the APTEL, vide order dated 3.10.2023 in Appeal Nos. 775 of 2023 and 776 of 2023, remanded the matter back to this Commission to issue fresh orders based on TANGEDCO's contentions relating to non-compliance with regulatory approval, connectivity regulations, the third amendment to the 2010 Sharing Regulations, non-availing PSDF grant, discriminatory adoption of Sharing methodology, and other associated issues. The directions of the APTEL vide order dated 3.10.2023 in Appeal Nos. 775 of 2023 and 776 of 2023 are as follows:

“It is not in dispute that the subject matter of these two Appeals (Appeal Nos.775/2023 and 776/2023) are covered by the order passed by this Tribunal in Appeal No.433/2022 dated 18.07.2023. Following the said order, and in terms thereof, this appeal is also disposed of.”

106. The APTEL vide order dated 18.7.2023 in Appeal No. 433 of 2022, remanded the matter back to the Commission with the following observations:



“30. We appreciate the views of the CTU and in the light of the above mentioned Orders, Statement of Reasons to the 2020 Sharing Regulations, and the fact that Raigarh-Pugalur HVDC transmission link will also be utilized for export of power outside the Southern Region(bi-directional) (on account of surplus scenario and optimistic RE capacity addition projections), the HVDC transmission link is likely to be utilized for both import and export of power under various operating conditions and may be considered as National Component under the 2020 Sharing Regulations.

.....

32. Therefore, the submissions of the Appellant under these circumstances find merit, for considering the Raigarh — Pugalur HVDC transmission system as assets of strategic and national importance in line with the other HVDC systems so that the charges are shared on all India basis.

33. We, therefore, find it appropriate to set aside the Impugned Order and direct the Central Commission to pass fresh order in the light of the observations recorded in the foregoing paragraphs and also duly consulting the statutory authorities i.e. CEA, CTU and POSOCO in the matter and also considering the aforementioned MoP's letter dated 30.05.2022.”

107. We observe that the APTEL, vide its aforesaid orders dated 18.7.2023 and 3.10.2023, has directed that, as the HVDC transmission link is likely to be utilised for both the import and export of power under various operating conditions, it may be considered as a National Component under the 2020 Sharing Regulations, upon duly consulting the statutory authorities, i.e., CEA, CTUIL, and GCIL, in the matter and also considering the MoP's letter dated 30.5.2022. The relevant extracts of the MoP letter dated 30.5.2022 are as follows:

“4. Accordingly, CERC is requested to consider transmission charges of all HVDC inter regional links under National component (100% transmission charges to be borne by all Designated Inter State transmission customers), provided that

- i) There is certain quantum to bi-directional power flow through the concerned HVDC inter-regional link*
- ii) The quantum of bi-directional power flow [for considering 100% of transmission charges of the link under national component] may be decided by CERC in consultation with stake holders including POSOCO, CEA and CTU.”*

108. As suggested by the MoP, the Commission published the draft Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) (Third Amendment) Regulations, 2023 on 12.6.2023. The draft Regulations propose the sharing of transmission charges for all inter-regional HVDC



Transmission Systems under the 'National Component' based on the bi-directional power flow in HVDC Transmission Systems.

109. We further observe that the transmission assets were planned to import power from the WR to the SR to facilitate direct inter-connection between pit head generating stations in Chhattisgarh and load centres in the SR. However, later, in view of the surplus scenario and optimistic RE capacity addition projections, it was proposed to use the said transmission system for the export of power outside the Southern Region and make it bi-directional. The maximum capacity of the transmission system in the forward direction (i.e., WR to SR) is 6000 MW, and the maximum capacity in the reverse direction (i.e, SR to WR) is 3000 MW.

110. We have given thoughtful consideration to the contentions of the Petitioner and the Respondents and have perused the record carefully. We are of the view that when regulations provide a particular treatment for an asset, its treatment has to be strictly as per those regulations, and it cannot be treated differently. In the instant Petitions, the CODs of Assets-1 and 2 in Petition No. 173/TT/2021 and Asset in Petition No. 242/TT/2021 are approved as 9.3.2021 & 13.7.2021, and 25.10.2021, respectively. Accordingly, the 2020 Sharing Regulations are applicable to these transmission assets. The Gazette Notification to the third amendment of the 2020 Sharing Regulations was issued on 27.10.2023 and has been effective since then. The relevant portions of the 2020 Sharing Regulations as well as its third amendment are as follows:

“2020 Sharing Regulations.

Regulation 5 and Regulation 6 of the 2020 Sharing Regulations provide as follows:

“5. Components and sharing of National Components (NC)

- (1) *National Component shall be sum of the following components:*
(a) *National Component-Renewable Energy (NC-RE); and*



- (b) *National Component-HVDC (NC-HVDC).*
- (2) *National Component -Renewable Energy Shall comprise of the Yearly Transmission Charges for transmission system developed for renewable energy projects as identified by the Central Transmission Utility.*
- (3) *National Component-HVDC shall comprise of the following:*
- (a) *100% of Yearly Transmission Charges for “back-to-back HVDC” transmission system;*
 - (b) *100% of Yearly Transmission Charges for Biswanath-Chariali/ Alipurduwar to Agra HVDC transmission system;*
 - (c) *Yearly Transmission Charges of Mundra–Mohindergarh 2500 MW HVDC transmission system corresponding to 1005 MW capacity*
- Provided that Yearly Transmission Charges corresponding to 1495 MW for the said transmission system shall be borne by M/s Adani Power (Mundra) Limited or its successor company; and*
- (d) *30% of Yearly Transmission Charges for all other HVDC transmission systems except those covered under sub-clauses (a), (b) and (c) of this clause of this Regulation.*
- (4) *The Yearly Transmission Charges for the National Component shall be shared by all drawee DICs and injecting DICs with untied LTA in proportion to their quantum of LongTerm Access plus Medium-Term Open Access and untied LTA respectively.”*

“6. Components and sharing of Regional Component (RC)

- (1) *Regional Component shall be sum of the following components:*
- (a) *Regional Component of HVDC (RC-HVDC) comprising of 70% of Yearly Transmission Charges of HVDC transmission systems planned to supply power to the concerned region, except HVDC transmission systems covered under sub clauses (a),(b) and (c) of Clause (3) of Regulation 5; and*
 - (b) *Yearly transmission charges for static compensators (STATCOMs), Static VAR compensators (SVCs), bus reactors, spare transformers, spare reactor and any other transmission element(s) located in the concerned region and identified by the Central Transmission Utility as being critical for providing stability, reliability and resilience in the grid.*
- Provided that where separate Yearly Transmission Charges are not available in respect of specific transmission elements, the yearly Transmission Charges for such transmission elements shall be worked out and provided by the Central Transmission Utility, apportioning Yearly Transmission Charges approved by the Commission for the integrated project, based on indicative capital cost.*
- (2) *Yearly Transmission Charges covered under sub-clause (a) of Clause (1) of this Regulation shall be shared by drawee DICs of the receiving region and injecting DICs with untied LTA in the receiving region, in proportion to their quantum of Long-Term Access plus Medium Term Open Access and untied LTA, respectively.”*



- (3) *Yearly Transmission Charges covered under sub-clause (b) of Clause (1) of this Regulation shall be shared by drawee DICs of the region and injecting DICs (with untied LTA) of the same region, in proportion to their quantum of Long-Term Access plus Medium Term Open Access and untied LTA, respectively.”*

“Third Amendment of 2020 Sharing Regulations.

2. *The following Provision shall be inserted in Sub-Clause (d) of Clause (3) of Regulation 5 of the principal Regulations:*

“Provided that where an inter-regional HVDC transmission system planned to supply power to a particular region is operated to carry power in the reverse direction due to system requirement , the percentage of Yearly Transmission Charges of such transmission system to be considered in the National Component shall be 30 % or more in accordance with sub-clause (a) of Clause (1) of Regulation 6 of these regulations”

4. *Sub-clause (a) of Clause (1) of Regulation 6 of the principal regulations shall be substituted as follows:*

“(a) Regional Component of HVDC (RC-HVDC) comprising of 70% of Yearly Transmission Charges of HVDC transmission system planned to supply power to the concerned region, except HVDC transmission system covered under clause (a), (b) and (c) of Clause (3) of Regulation 5:

Provided that where an inter-regional HVDC transmission system planned to supply power to a particular region is operated to carry power in the reverse direction due to system requirements, the percentage of Yearly Transmission Charges of such transmission system to be considered in the Regional Component and the National component shall be calculated as follows:

HVDCr (in %) = (MW capacity of Power flow in the reverse directions/MW capacity of power flow in the forward direction) X 100

Where, HVDCr (in %) is more than 30%. The Yearly Transmission Charges corresponding to HVDCr shall be considered in the National Component and the balance in the regional component

Where, HVDCr (in %) is equal to or less than 30%, 30% of Yearly Transmission Charges corresponding to HVDCr shall be considered in the National Component and 70% in the regional component

Provided further that the MW capacity of Power flow in reverse direction shall be certified by NLDC by way of actual power flow equal to such capacity; and”

111. We would also like to refer here to the judgment of Hon'ble Supreme Court in the case of PTC India Limited v. CERC [(2010) 4 SCC 603], wherein it is observed that if there is a regulation, then the measures under Section 79(1) has to in



conformity with such regulation under Section 178. The Relevant extracts of said judgement are as follows:

“18. Section 3 of the 2003 Act requires the Central Government, in consultation with the State Governments and the Authority, to prepare the National Electricity Policy as well as tariff policy for development of the power system based on optimum utilisation of resources. The Central and the State Governments are also vested with rule-making powers under Sections 176 and 180 respectively, while the —“Authority” has been defined under Section 2(6) as the regulation-making power under Section 177. On the other hand, the Regulatory Commissions are vested with the power to frame policy, in the form of regulations, under various provisions of the 2003 Act. However, the Regulatory Commissions are empowered to frame policy, in the form of regulations, as guided by the general policy framed by the Central Government. They are to be guided by the National Electricity Policy, the tariff policy as well as the National Electricity Plan in terms of Sections 79(4) and 86(4) of the 2003 Act (see also Section 66).

55. To regulate is an exercise which is different from making of the regulations. However, making of a regulation under Section 178 is not a precondition to the Central Commission taking any steps/measures under Section 79(1). As stated, if there is a regulation, then the measure under Section 79(1) has to be in conformity with such regulation under Section 178. This principle flows from various judgments of this Court which we have discussed hereinafter. For example, under Section 79(1)(g) the Central Commission is required to levy fees for the purpose of the 2003 Act. An order imposing regulatory fees could be passed even in the absence of a regulation under Section 178. If the levy is unreasonable, it could be the subject-matter of challenge before the appellate authority under Section 111 as the levy is imposed by an order/decision-making process. Making of a regulation under Section 178 is not a precondition to passing of an order levying a regulatory fee under Section 79(1)(g). However, if there is a regulation under Section 178 in that regard then the order levying fees under Section 79(1)(g) has to be in consonance with such regulation.

56. Similarly, while exercising the power to frame the terms and conditions for determination of tariff under Section 178, the Commission has to be guided by the factors specified in Section 61. It is open to the Central Commission to specify terms and conditions for determination of tariff even in the absence of the regulations under Section 178. However, if a regulation is made under Section 178, then, in that event,

framing of terms and conditions for determination of tariff under Section 61 has to be in consonance with the regulations under Section 178.

57. One must keep in mind the dichotomy between the power to make a regulation under Section 178 on the one hand and the various enumerated areas in Section 79(1) in which the Central Commission is mandated to take such measures as it deems fit to fulfil the objects of the 2003 Act. Applying this test to the present controversy, it becomes clear that one such area enumerated in Section 79(1) refers to fixation of trading margin. Making of a regulation in that regard is not a precondition to the Central Commission exercising its powers to fix a trading margin under Section 79(1)(j), however, if the Central Commission in an appropriate case, as is the case herein, makes a regulation fixing a cap on the trading margin under Section 178 then whatever measures the Central Commission takes under Section 79(1)(j) have to be in conformity with Section 178.”

112. In view of the above discussions, we are of the view that the transmission assets were planned for drawl by the SR and as such, in the instant Petitions, the 2020 Sharing Regulations are applicable, where 30% of its charges are under National Component and 70% under Regional Component. The comments specific to these transmission assets were raised by TANGEDCO during the finalisation of the 2020 Sharing Regulations, which were duly considered. Accordingly, the 2020 Sharing Regulations were finalised on 4.5.2020. The Statement of Reasons (SoR) to the 2020 Sharing Regulations specifically dealt with the said comment of TANGEDCO and specified that the treatment of any HVDC may undergo changes based on the change in load generation. After the COD of the transmission assets from September 2020 progressively, the data for actual flow has been received, and accordingly, a draft third amendment to the 2020 Sharing Regulations was proposed on 12.6.2023.

113. The third amendment to Regulation 6 (1) (a) of the 2020 Sharing Regulations provides as follows:

“(a) Regional Component of HVDC (RC-HVDC) comprising of 70% of Yearly Transmission Charges of HVDC transmission system planned to supply power to the concerned region, except HVDC transmission system covered under clause (a), (b) and (c) of Clause (3) of Regulation 5:



Provided that where an inter-regional HVDC transmission system planned to supply power to a particular region is operated to carry power in the reverse direction due to system requirements, the percentage of Yearly Transmission Charges of such transmission system to be considered in the Regional Component and the National component shall be calculated as follows:

HVDCr (in %) = (MW capacity of Power flow in the reverse directions/MW capacity of power flow in the forward direction) X 100

Where, HVDCr (in %) is more than 30%. The Yearly Transmission Charges corresponding to HVDCr shall be considered in the National Component and the balance in the regional component

Where, HVDCr (in %) is equal to or less than 30%, 30% of Yearly Transmission Charges corresponding to HVDCr shall be considered in the National Component and 70% in the regional component

Provided further that the MW capacity of Power flow in reverse direction shall be certified by NLDC by way of actual power flow equal to such capacity; and”

114. In light of the above facts, the CODs of transmission assets, i.e., Assets-1 & 2 of Petition No. 173/TT/2021 and Asset of Petition No. 242/TT/2021, were on 9.3.2021 & 13.7.2021, and 25.10.2021, respectively. Hence, the sharing aspects for the transmission assets are addressed as follows:

- i. For the period from the COD of the respective assets until the third amendment to the 2020 Sharing Regulations comes into force;
- ii. The period since the third amendment to the 2020 Sharing Regulations came into force.

115. For the period from the COD of the respective assets until the third amendment of the 2020 Sharing Regulations came into force, we are of the view that the 2020 Sharing Regulations for sharing transmission charges are applicable, which provide that 70% of the transmission charges shall be under the Regional Component and 30% under the National Component. The transmission charges of Raigarh-Pugalur HVDC line for the period from the dates of commercial operation (CODs) of assets considered in Petition No. 173/TT/2021 and in Petition No.



242/TT/2021 shall be shared in terms of Regulations 5 and 6 of the 2020 Sharing Regulations.

116. As regards the period since the third amendment to the 2020 Sharing Regulations came into force, the applicable regulations for sharing transmission charges are the 2020 Sharing Regulations, including the third amendment thereof. The third amendment has been finalised keeping in view the suggestions of all stakeholders, including CEA, CTUIL, GCIL, and all India beneficiaries. Therefore, after the promulgation of the third amendment to the 2020 Sharing Regulations, the transmission charges for the transmission assets would be shared accordingly.

117. Accordingly, this issue is decided.

Issue No.4: What is the status of funding for the transmission assets of the present case from PSDF/NCEF?

118. TANGEDCO has contended that in the case of the Biswanath-Chariali –Agra HVDC system, the tariff was approved by the Commission in Petition No. 67/TT/2015 only after availing a grant from PSDF by the Petitioner. Further, based on the Commission's directions, MoP vide letter dated 10.3.2017 sanctioned a grant to the BNC-Agra HVDC project. TANGEDCO had also requested the Commission to direct the Petitioner to avail the grant from MoP. However, the Petitioner did not take any action to avail of the grant. Subsequently, the matter was deliberated on in various SRPC meetings, and the Petitioner was requested to take urgent action to avail of the grant. In this regard, TANGEDCO vide letter dated 14.11.2022, requested the Petitioner to avail a grant from MoP. This was reiterated by TANGEDCO vide letter dated 18.5.2023.



119. KSEBL has also contended that, considering the importance of the transmission assets for renewable energy integration, the funding from PSDF / NCEF deserves to be used to reduce the Yearly Transmission Charges of the project. KSEBL has further contended that the Petitioner has not taken any genuine efforts to avail the grant(s) in the instant cases, while on the other hand, the Petitioner had made considerable efforts to seek grant(s) for reducing the transmission charges for the BNC-Agra transmission system. In the case of BNC-Agra, the Petitioner had sought a grant for 50% of the capital cost, whereas in the case of the present transmission system, it has sent letters to the PSDF funding agency seeking a grant of only 15% of the capital cost. KSEBL has further contended that the Petitioner should be directed to take steps to avail of the grant of capital costs from PSDF / NCEF, which is at par with the grant availed there in the BNC-Agra HVDC system.

120. The Petitioner has contended that tariff determination has to be on the entire capital cost. The adjustment in the capital cost has to be made only when the actual grant is received and is to be given effect in terms of the mandates of the grant. The Petitioner was serious in its efforts and kept the SR beneficiaries informed of the developments through various letters and in RPC forums. Further, a reminder was also sent to the PSDF Committee by the Petitioner vide letter dated 8.6.2023. In response to the said reminder, the PSDF Committee Member from NLDC vide its letter dated 15.6.2023 informed that the issue of the grant was discussed in the 30th meeting of the Appraisal Committee held on 16.3.2023. It was learnt from the Minutes of the Appraisal Committee that it was decided not to consider this proposal till the directions of the Ministry of Power are received on the same. The matter was accordingly being pursued with the MoP.



121. Further, the Petitioner has submitted with regard to a grant from the PSDF/NCEF, that on 6.5.2024, a meeting was convened under the Chairmanship of the Joint Secretary (Trans.), MoP to discuss the provisions related to the grant of funds for the Raigarh-Pugalur-Trichur HVDC project. During the meeting, the Petitioner apprised MoP regarding the PSDF/MoP grant applied for the Raigarh-Pugalur-Trichur Transmission System and requested MoP to expedite the release of the grant. Additionally, on 29.8.2024, a meeting was also held under the Chairmanship of the Additional Secretary (Trans.), MoP to discuss the possibility of 100% reverse power flow from Pugalur to Raigarh. During the said meeting, CEA apprised MoP regarding the PSDF grant applied for the Raigarh-Pugalur-Trichur Transmission System. In the said meeting, the Petitioner apprised the members regarding the directions of the Commission concerning obtaining a grant from the PSDF fund.

122. We think it proper here to refer to our orders dated 22.2.2023 and 16.2.2023 in the Petition Nos. 173/TT/2021 and 242/TT/2021, respectively, wherein the following was observed:

Order dated 22.2.2023 in the Petition No. 173/TT/2021 and Order dated 16.2.2023 in Petition No. 242/TT/2021

“100. We have already considered the submission of the Petitioner and Respondents in the order dated 29.9.2022 in Petition No. 685/TT/2020 and held that these is a necessity to share the burden of capital cost of transmission scheme by way of assistance from the PSDF and directed the Petitioner to take up the matter with the Monitoring Committee of the PSDF/Ministry of Power (MoP) . The relevant extract of the above order dated 29.9.2020 is as follows:

117. We have considered the submission of the Petitioner, KSEB and BESCO. The Commission is aware of the fact that the capital investment of the instant transmission scheme/transmission project is huge. The commission feels that there is a strong necessity to share the burden of capital cost of the transmission scheme by way of assistance from the PSDF by way of one time grant. Accordingly, we direct the Petitioner to take up the matter with Monitoring Committee of the PSDF for assistance in the form of one-time grant from the PSDF and with Ministry of Power for grant to reduce the burden of transmission charges on the DICs. We, in the facts



and circumstances of the present case, are of the considered view that Ministry of Power, Government of India to arrange for funds from PSDF as well as Government grant, considering the benefits that would accrue to the power sector and the economy of the country.”

123. We have carefully considered the contentions of the Petitioner and the Respondents and perused the record. We are of the considered view that the instant matters involve a substantial cost of approximately ₹22,000 crore. Accordingly, we once again direct the Petitioner to approach the Ministry of Power (MoP) and earnestly pursue the matter for availing an adequate grant from the Power System Development Fund (PSDF), with a view to mitigating the tariff burden on the beneficiaries.

124. Apart from the above issues, GRIDCO has submitted that, despite the similar nature of transmission assets, the tariffs for Pole II, Pole III, and Pole IV should be identical. According to GRIDCO, a significant difference is observed in the tariff claimed by the Petitioner. The Petitioner may be directed to elaborate on the details and justify this difference in tariff with cogent reasons.

125. In response, the Petitioner has clarified that Pole-I and Pole-II belong to HVDC bipole-1, whereas Pole-III and Pole-IV belong to HVDC bipole-2 of the Raigarh-Pugalur HVDC System Scheme-1, and has summarised the reasons for the differing capital costs.

126. Having considered the submissions from both parties and perused the record, we now refer to the excerpt from the order dated 16.2.2023 in Petition No. 242/TT/2021, which is as follows:

“34. The Petitioner has submitted the Petition No. 685/TT/2020 for Pole-I, Petition No.173/TT/2021 for Pole-II and Pole-III and Petition No. 242/TT/2021 (i.e. instant petition) for transmission charges of Pole-IV. It is observed from the submissions of the Petitioner in various petitions as



indicated above that there is unequal distribution of FR cost amongst Pole-I, Pole-II, Pole-III and Pole-IV. Accordingly, the Petitioner is directed to submit the reasons for unequal distribution of FR cost amongst Pole-I, Pole-II, Pole-III and Pole-IV at the time of truing up.”

127. Considering the observation made in the order dated 16.2.2023 in Petition No. 242/TT/2021, no further observation is necessary at this juncture regarding the capital cost of the various poles.

128. This order disposes of Petition No. 173/TT/2021 alongwith IA No. 92/2023 and Petition No. 242/TT/2021 along with IA No. 91/2023, in terms of the above findings and discussions.

sd/-
(Harish Dudani)
Member

sd/-
(Ramesh Babu V.)
Member

sd/-
(Jishnu Barua)
Chairperson

