

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Petition No. 685/TT/2020
(On remand)**

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri P.K. Singh, Member**

Date of Order: 30.10.2023

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination of transmission tariff from the date of commercial operation (COD) to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of ± 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) 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,
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, Telangana.
11. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle,
Bangalore-560001 (Karnataka).
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,
Kavoor Cross Road, Bejai,
Mangalore-575004 (Karnataka).
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-400001.
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-396 230.
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 (Rajasthan)
27. Jaipur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-Station Building,
Caligiri Road, Malviya Nagar,



Jaipur-302017 (Rajasthan)

28. Jodhpur Vidyut Vitran Nigam Limited,
New Power House, Industrial Area,
Jodhpur - 342 003(Rajasthan)
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 (Haryana) 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-II,
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 - 700 054
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,
Guwahat 781001, Assam.
48. Meghalaya Energy Corporation Limited
Short Round Road, "Lumjingshai"
Shillong-793001, Meghalaya.
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, Tripura.
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 MP.
57. DB Power Limited,
Office Block IA,5th Floor,
Corporate Block, DB City- Park, DB City,
Arera Hills Opp MP Nagar, Zone -I Bhopal-462016 MP.
58. Sembcorp Energy India Limited,
(Erstwhile Thermal Powertech Corporation India limited)
6-3-1090, A-5, TSR Towers Rajbhavan Road,
Somajiguda Hyderabad-500082 TG.
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,
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,
District Raigarh, Chhattisgarh-496107.
63. Spectrum Coal and Power Limited,
18, Vas ant Enclave Rao Tula Ram Marg,
New Delhi-110057.
64. Torrent Power Limited,
Samanvay, 600,
Tapovan, Ambavadi, Ahmedabad-380015 (Gujarat).
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,
27 km, Surat-Hazira Road,
Hazira, Surat-394270, Gujarat.
70. Gati Infrastructure Limited,
Chuzachen HEP, Plot No. 20,
Survey No. 12 Kothaguda, Kondapur,
Hyderabad,500084, Telangana.
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.
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)**

For Petitioner : Ms. Swapna Seshadri, Advocate, PGCIL
Shri Utkarsh Singh, Advocate, PGCIL



Shri Mukesh Khanna, PGCIL
Shri Mohd. Mohsin, PGCIL
Shri Zafrul Hasan, PGCIL
Shri Angaru Naresh Kumar, PGCIL

For Respondents : Shri P. Wilson, Senior Advocate, TANGECO
Shri S. Vallinayagam, Advocate, TANGEDCO
Shri Apoorv Malhotra, Advocate, TANGEDCO
Shri Aishwarya Raj Mishra, Advocate, TANGEDCO
Shri M. Sethuraman, TANGEDCO
Dr. R. Kathiravan, TANGEDCO
Ms. Suparna Srivastava, Advocate, CTUIL
Shri Tushar Mathur, Advocate, CTUIL
Ms. Tejasvita Dhawan, Advocate, CTUIL
Shri Anil Kumar Meena, CTUIL
Shri Swapnil Verma, CTUIL
Shri R. S. Rajput, CTUIL
Shri V. Srinivas, CTUIL
Shri Prabhas Bajaj, Advocate, KSEB
Shri Priyanshu Tyagi, Advocate, KSEB
Shri Vishrov Mukherjee, Advocate, Sembcorp Energy
Shri Yashaswi Kant, Advocate, Sembcorp Energy
Ms. Priyanka Vyas, Advocate, Sembcorp Energy
Shri Shubham Mudgil, Advocate, UPPCL
Shri Abhishek Kumar, Advocate, UPPCL
Shri Sitesh Mukherjee, Advocate, UPPCL
Shri Anup Jain, Advocate, MSEDCL
Ms. Nishtha Goel, Advocate, MSEDCL
Shri Shubhranshu Padhi, Advocate, R. Nos. 12 to 15
Shri Niroop Sukirthy, Advocate, R. Nos. 11 to 15
Shri D. Abhinav Rao, Advocate, R. Nos. 9, 10 and 16
Shri Rahul Jajoo, Advocate, R. Nos. 9, 10 and 16
Shri Sidhant Kumar, Advocate, R. Nos. 7 & 8
Ms. Manyaa Chandok, Advocate, R. Nos. 7 & 8
Shri Ravin Dubey, Advocate, MPPMCL
Shri Ravi Sharma, Advocate, CSPDCL
Shri Raj Kumar Mehta, Advocate, GRIDCO
Ms. Himanshi Andley, Advocate, GRIDCO
Shri Manish Kumar Choudhary, Advocate, BSPHCL
Shri Gajendra Singh, NLDC
Shri Prabhankar, NLDC
Shri Debajyoti Majumdar, NLDC

ORDER

Power Grid Corporation of India Limited (hereinafter to be referred to as the Petitioner), a deemed transmission licensee. The petitioner filed the instant petition for the determination of transmission tariff under the Central Electricity



Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) from the date of commercial operation (COD) to 31.3.2024 in respect of \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) 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” in the Southern Regional grid (hereinafter referred to as the “transmission scheme”).

2. The Petitioner has made the following prayers in the instant petition:

“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.

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) 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.

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 Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."

Background

3. The Commission, vide order dated 29.9.2022 in the instant petition (hereinafter referred to as the "Commission's order"), determined the tariff and sharing of the transmission charges. On an appeal filed by Respondent No. 1 TANGEDCO, the Appellate Tribunal For Electricity (APTEL) has set aside the Commission's order dated 29.9.2022 in Petition No.685/TT/2020 vide judgement dated 18.7.2023 in Appeal No.433 of 2023 (hereinafter referred to as "APTEL's Judgement") and directed the Commission to pass a fresh order in the light of the observations made in the said judgement and in consultation with the CEA, CTUIL, and POSOCO (now known as 'GCIL') and in the light of the Ministry of Power's (MoP) letter dated 30.5.2022. The relevant extracts of the APTEL's judgement 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 asset 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 asset 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 175GW 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 Sharing Regulations, 2020.



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 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.

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."

Accordingly, the matter has been heard again as per the directions of APTEL in its judgement dated 18.7.2023.

4. The Petitioner filed Civil Appeal No. 4959 of 2023 before the Hon'ble Supreme Court against the APTEL's judgement 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."*

5. The Commission filed Civil Appeal No. 5883 of 2023 before the Hon'ble Supreme Court on a limited aspect of the APTEL's judgement dated 18.7.2023 in Appeal No. 433 of 2022. The Hon'ble Supreme Court, vide order dated 25.9.2023, dismissed the Civil Appeal. The Hon'ble Supreme Court order dated 25.9.2023 in Civil Appeal No. 5883 of 2023 is 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."*

6. As the issue involved is regarding considering the transmission asset as of national and strategic importance and the transmission charges to be shared on an all-India basis, we felt it was necessary to implead the beneficiaries of all the regions as Respondents in the matter. Besides, 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, to implead the beneficiaries of all the regions as Respondents in the matter. The Petitioner has impleaded 52 entities as Respondents at the stage of remand, which includes the CEA, CTUIL, and GCIL (POSOCO), besides the 24 beneficiaries of SR and WR in the original petition.
7. Out of the 76 Respondents, which includes the CEA, CTUIL, and GCIL, 13 Respondents have filed their replies in the matter. TANGEDCO, Respondent No. 1, has filed its reply vide affidavit dated 11.9.2023; Karnataka State Electricity Board Limited (KSEBL), Respondent No. 3, vide affidavit dated 12.9.2023. Eastern Power Distribution Company of Andhra Pradesh Ltd. (EPDCAPL), Respondent No. 7, and Southern Power Distribution Company of Andhra Pradesh Limited, (SPDCAPL), Respondent No. 8 (collectively known as AP Discoms) have filed a reply vide a combined affidavit dated 20.9.2023. Telangana State Southern Power Distribution Company Limited (TSSPDCL), Respondent No. 9, and Telangana State Northern Power Distribution Company Limited (TSNPDCL), Respondent 10 (collectively known as Telangana Discoms) have filed a reply vide a combined affidavit dated 13.9.2023. Bangalore Electricity Supply Company Limited, Respondent No. 11, Gulbarga Electricity Supply Company Limited, Respondent No. 12, Hubli Electricity Supply Company Limited, Respondent No. 13, Mangalore Electricity Supply Company Limited, Respondent No. 14, and Chamundeswari Electricity Supply Corporation Limited, Respondent No. 15 (collectively known as Karnataka Discoms), vide combined affidavit dated 12.9.2023. Madhya Pradesh Power Management Company Limited (MPPMCL), Respondent No. 19, vide affidavit dated 13.9.2023; Maharashtra State Electricity Distribution Company Limited (MSEDCL), Respondent No. 20, vide affidavit dated 11.9.2023; Bihar State Power (Holding)



Company Limited (BSPHCL), Respondent No. 41, vide affidavit dated 13.9.2023; SEIL Energy India Limited (SEIL), Respondent No. 54, vide affidavit dated 13.9.2023; Grid Controller of India Limited (GCIL), Respondent No. 73, vide affidavit dated 12.9.2023; Central Transmission Utility of India Limited (CTUIL), Respondent No. 75, vide affidavit dated 12.9.2023 have filed their reply. In response, the Petitioner has filed a combined rejoinder vide affidavit dated 26.9.2023.

8. Further, the Petitioner, TANGEDCO, KSEBL, UPPCL, SEIL, MPPMCL, BRPL, GCIL, BSPHCL, AP Discoms, GRIDCO, MSEDCL, Karnataka Discoms, and WBSEDCL have filed their Written Submissions. Grid Corporation of Odisha (GRIDCO), Respondent No.43, has filed its written submissions dated 4.10.2023. Chhattisgarh State Power Distribution Company Limited (CSPDCL), Respondent No. 24, has also filed the written submissions. CEA has also made its submissions on 20.10.2023.
9. During the hearing on remand, the Petitioner also filed an Interlocutory Application (IA No.66/IA/2023) seeking direction against the Respondents not to make any unilateral deductions/ adjustments and to release payments for the already adjusted amount pending final adjudication of the remand petition. The Commission, vide order dated 29.9.2023 directed both parties to maintain the status quo until the final order is passed and the IA is disposed of. The relevant extract of the order dated 29.9.2023 is as follows:

“15. We have considered the submissions made by the parties. The Applicant/ Petitioner has prayed to issue directions to TANGEDCO and Telangana DISCOMs to release the transmissions charges, which were earlier paid by them as per the Commission’s order dated 29.9.2023 in Petition No.685/TT/2020 being deducted by them in the name of adjustments after the APTEL’s judgement dated 18.7.2023 in Appeal No. 433 of 2022. The Applicant/ Petitioner has further requested to direct all the Respondents not to make any unilateral deductions/ adjustments and to release payments for the already adjusted amount pending final adjudication of the remand petition. The Applicant/ Petitioner in its combined rejoinder to the replies filed by the Respondents has also prayed that the Applicant/ Petitioner may be allowed to recover 45% of the transmission charges, which cannot be disputed by any of the DISCOMs, as the transmission asset is being utilised to transmit power and the Applicant/ Petitioner is incurring operational expenditure to operate and maintain the transmission asset and to service the debt obligations.

16. The basic contention of the Respondents is that the Commission’s order dated 29.9.2022 in Petition No.685/TT/2020, approving tariff for the transmission asset from its COD to 31.3.2024 under the 2019 Tariff Regulations, has been set aside in its entirety by APTEL vide judgement dated 18.7.2023 in Appeal No.433 of 2023 filed by



TANGEDCO. Therefore, the Applicant/ Petitioner is not entitled to retain the transmission charges that were earlier paid by the Respondents so they have adjusted the transmission charges paid by them.

17. On the other hand, the Applicant/ Petitioner has submitted that TANGEDCO had only raised the issue of disallowance of its plea of declaring the transmission asset as of national importance in its Appeal before the APTEL. Accordingly, APTEL only considered the issue of whether the Commission has the power and jurisdiction to declare any transmission asset as of national importance.

18. We have considered the rival submissions, whether the order dated 29.9.2022 has been set aside in its entirety is to be discussed in the final hearing only in which we have been directed to pass an order by 31.10.2023.

19. We have considered the submissions of the Petitioner in the rejoinder dated 22.9.2023 that after the judgement of APTEL, it is not raising any further bill. We find that the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2021 in Chapters 4 and 5 provide a detailed procedure for accounting, billing and collection of transmission charges by the CTUIL, as per the invoices raised by the CTUIL in accordance with the Billing, Collection & Disbursement Procedure framed as per Clause 3 of Regulation 23 of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. The adjustments, if any, are to be made by CTUIL. Needless to say, any contravention of the regulations makes a person liable for a punishment under Section 142 of the Act. We are not going into the merits of the rival submissions, in view of our specific regulations, both parties are directed to maintain a status quo as on the date of this order till the final order is passed.

20. The IA No. 66/IA/2023 in Petition No. 685/TT/2020 is disposed of in terms of the above findings and discussions.”

10. The instant petition is about the determination of tariffs and the sharing of such tariffs by DICs. Let us first consider the scope of remand **whether the entire order has been set aside or if it has been set aside only partly.**

11. The beneficiaries/ Respondents from the SR have strongly contended that the Commission's order has been set aside in its entirety by APTEL's judgment and that the matter has to be heard afresh, including the tariff that was approved by the Commission. Accordingly, TANGEDCO, KSEBL, Karnataka Discoms, and Telangana Discoms have raised the issue of time overrun, cost variation, capital cost, additional capital expenditure, excess initial spares, and O&M expenses in their replies.

12. On the other hand, the Petitioner has submitted that TANGEDCO had only raised the issue of disallowance of its plea of declaring the transmission asset as of national



importance in its Appeal before the APTEL. Accordingly, the APTEL only considered the issue of whether the Commission has the power and jurisdiction to declare any transmission asset of national importance. In this regard, the Petitioner has referred to paragraph 4 of the APTEL's judgement dated 18.7.2023, where the APTEL observed that *"The main issue, thus, raised before us is whether the Central Commission has the powers and jurisdiction to declare any transmission asset as of national importance and 100% yearly transmission charges may be considered under National Component,"*. The Petitioner has further contended that the APTEL, in its judgement, directed the Commission to pass a fresh order in light of the observations made in its judgement. Petitioner has submitted that, as no observations were made by the APTEL in respect of the tariff in the judgement dated 18.7.2023, the remand is on the limited issue of whether the Commission has the jurisdiction to declare the transmission asset as an asset of national importance and whether the transmission asset has to be included in the 'National Component' for the purpose of sharing its transmission charges. Therefore, the Petitioner argued that there is no requirement to reopen the tariff that has been approved vide order dated 29.9.2022 in Petition No.685/TT/2022 for the transmission asset or to determine the tariff afresh as contended by the Respondents.

13. It is pertinent here to refer to the observations made by the APTEL in its judgement dated 18.7.2023, which are as follows:

"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.

.....

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 observation record in the foregoing paragraphs....."



14. In this connection, we would refer to the APTEL's judgement dated 10.5.2010 in Appeal No.146 of 2009 & IAs in respect of DVC vs. CERC & Others, wherein the APTEL dealt with the scope of remand in detail, which was referred to by the learned counsel for CTUIL during the hearing on 4.10.2023. In this Appeal, DVC contended that the APTEL had directed the Commission to consider all the issues *de novo*. DVC contended that, however, the Commission did not consider all the issues raised by DVC and failed to take into account the particulars, including the subsequent events, disregarding the directions given by the APTEL. Taking into consideration the submissions made by DVC, the APTEL concluded that its judgement dated 23.11.2007 in Appeal No. 273 of 2006 is only a "limited remand order."

15. As mentioned above, TANGEDCO and some of the other SR beneficiaries contended that the Commission's order dated 29.9.2022 has been set aside in its entirety. It is observed that the APTEL has set aside the Commission's order and directed the Commission to pass a fresh order in light of the observation made by the APTEL in the judgement dated 18.7.2023. We have carefully perused the APTEL's judgement. No contentions of the appellant regarding tariff determination have been noted in APTEL's judgement. Further, no observations were made by the APTEL on any specific aspect of the tariff that needs fresh consideration. The only observation of the APTEL on tariffs is in paragraph 22 quoted above, which is also about the sharing of tariffs by some beneficiaries, which is an aspect relating to sharing. Further, as contended by the Petitioner, the APTEL has made specific observations only on the aspect of considering the transmission asset as an asset of national and strategic importance and on including it in the National Component for the purpose of sharing its transmission charges.

16. Accordingly, we are of the considered view that the instant remand is a "limited order remand" to the extent of considering the transmission asset in the National Component and the Commission's order dated 29.9.2022 in Petition No.685/TT/2020 has not been set aside in its 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 asset under the 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 fair and just to offer an opportunity to the newly impleaded respondents at the stage of remand 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 all the Respondents on tariff determination for the transmission asset after the remand.

17. In light of our discussions above, the order consists of two parts:

Part-1: Tariff determination of the transmission asset

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

Each part is dealt with in subsequent paragraphs.

Part-1: Tariff determination of the transmission asset

Brief Facts

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

- a) Investment Approval (IA) of the transmission project/scheme was accorded by the Board of Directors of the Petitioner's Company vide Memorandum No. C/CP/IA/HVDC RP dated 9.5.2016 in its 328th meeting held on 5.5.2016 with an estimated cost of ₹1473337 lakh, including Interest During Construction (IDC) of ₹99528 lakh, based on the December, 2015 price level.
- b) The scope of the transmission project was 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 Standing Committee on Power System planning in Southern Region
2	29.8.2013	36 th Meeting of 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 Western Regional power committee
5	26.10.2013	23 rd Meeting of Southern Regional Power Committee
6	15.3.2014	24 th Meeting of Southern Regional Power Committee
7	31.7.2014	37 th Meeting of Standing Committee on Power System planning in Southern Region
8	26.7.2014	25 th Meeting of Southern Regional Power Committee
9	5.9.2014	37 th Meeting of Standing Committee on Power System planning in Western Region
10	30.9.2014	33 rd Meeting of Empowered Committee on Transmission
11	20.12.2014	26 th Meeting of Southern Regional Power Committee
12	7.3.2015	38 th Meeting of Standing Committee on Power System planning in Southern Region
13	13.4.2015	34 th Meeting of Empowered Committee on Transmission
14	20.4.2015	Joint Meeting of Standing Committee on Power System planning in Southern Region and Western Region
15	12.5.2015	27 th Meeting of Southern Regional Power Committee
16	28.5.2015	Joint Meeting of Standing Committee on Power System planning in 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

c) The scope of work covered under the transmission project was to be implemented as three separate schemes, which have been filed in separate petitions for tariff determination as follows:

Sl. No	Name of Asset	Schedule Commissioning date per IA	Actual COD	Covered under Petition No.
A	Scheme # 1: Raigarh-Pugalur 6000 MW HVDC System			
1	±800 kV 6000MW 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 (instant petition)
2	±800kV 1500 MW (Pole-II) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	9.3.2021	173/TT/2021



3	±800kV 1500 MW (Pole-III) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	13.7.2021	
4	±800kV 1500 MW (Pole-IV) HVDC terminals each at Raigarh (HVDC Station) & Pugalur (HVDC Station)	5.11.2019	25.10.2021	242/TT/2021
B	Scheme # 2: AC System strengthening at Pugalur end			
1	a) 400kV Pugalur (HVDC Station)- Pugalur (Existing) (Quad) D/C Transmission Line along with associated bays at Pugalur (HVDC Station) & Pugalur (Existing) Sub- station and b) 400kV 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) 400kV (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 400kV (quad) D/C line (Pugalur – Edayarpalayam line and Edayarpalayam – Udumulpet line are bypassed at Edayarpalayam Sub- station to make Pugalur – Udumulpet line)	16.2.2020	13.7.2021	243/TT/2021
3	Pugalur HVDC Station– Thiruvalem 400 kV (quad) D/C line along with associated bays at Pugalur HVDC station and Thiruvalem Sub-station and 2 numbers 63 MVAR line reactors at Thiruvalem 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 400kV (quad) D/c line and Edayarpalayam– Udumulpet 400 kV(quad)D/c lines.	16.2.2021	Yet to be executed* (as per last status available)	
	<i>*Bay extension works at Edayarpalayam (TANTRANSCO) Sub-station is envisaged to be implemented by TANTRANSCO on behalf of the Petitioner on 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	9.4.2020	9.3.2021	



	with ± 320 kV 1000 MW (Mono Pole-II) HVDC terminals each at Pugalur (HVDC Station) & North Trichur (HVDC Station, Kerala)			172/TT/2021
2	± 320 - kV 1000 MW (Mono Pole-I) HVDC terminals each at Pugalur	9.4.2020	8.6.2021	

19. It is noticed that none of the beneficiaries/ LTTCs/ Respondents of NR, ER, and NER have made any submissions on the tariff that has been determined by us for the transmission asset vide order dated 29.9.2022. TANGEDCO, Telangana Discoms, and Karnataka Discoms have raised the issue of time overrun, cost variation, ACE, initial spares, and O&M expenses in their reply on remand. KSEBL has submitted a copy of the reply filed by it in the original petition, where it has raised the issue of time over-run. MPPMCL and MSEDCL have simply submitted that the capital cost of the transmission asset is on the higher side. Further, the Karnataka Discoms have reiterated the submissions made in their reply in respect of time overrun, cost variation, initial spares, IDC, and O&M expenses in the case of the transmission asset in the written submissions filed on 10.10.2023. We consider the issues raised by the Respondents in the following paragraphs.

Date of Commercial Operation

20. No submissions have been made by any of the Respondents on the aspect of the date of commercial operation. Accordingly, the decision as per the Commission's order is reiterated herewith as follows:

"The Petitioner has submitted RLDC charging certificates dated 4.9.2020, 6.10.2020 and 29.10.2020 certifying that trial operation was completed on 6.9.2020 and CMD certificate as required under the Grid Code. Taking into consideration CEA energization certificate, RLDC charging certificate and CMD certificate, COD of the transmission asset is approved as 6.9.2020."

Capital cost

21. The Petitioner vide affidavit dated 15.12.2021 has claimed the following capital cost incurred as on COD and Additional Capital Expenditure (ACE) projected to be incurred in respect of the transmission asset 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	
965798.73	878821.09	20463.91	40218.82	4141.41	71.03	943716.26

Cost variation and imprudent cost estimation

22. The submissions made by TANGEDCO and Telangana Discoms in their reply, on remand, are identical to the ones submitted during the proceedings of the original petition. Referring to the capital cost claimed by the Petitioner and the reasons for cost variation, TANGEDCO and Telangana Discoms have made the following submissions:

- a) The Petitioner has overestimated the cost of land compensation, erection, stringing, and civil works in the HVDC package, used this cushion comfortably, and, as usual, submitted casually that the overall competition cost is within the apportioned approved cost.
- b) The Petitioner has claimed an exorbitant amount of Rs 927.27 crore towards preliminary works and compensation. However, the Petitioner did not produce any documentary proof in support of the land compensation paid to the individual land owners.
- c) If the individual component cost is too high when compared to recent orders/benchmark rates, then the Petitioner should have negotiated the rates with the lowest bidder.
- d) There is a 33.29% drop in expenditure incurred on the erection, stringing, and civil works of the transmission line. It shows that the Petitioner has not followed a prudent method of estimation.
- e) There is an increase in taxes and duties by 76.32%, and the reason submitted by the Petitioner is that the FR costs of individual items/ materials are exclusive of taxes and duties, which have been indicated under a separate head, while the cost of items as per the actual expenditure is inclusive of taxes and duties. The reason submitted by the Petitioner is not acceptable, as they have experience and exposure in this field and in the preparation of cost estimates.
- f) The Petitioner has been executing a number of HVDC projects, and they should have benchmark data for each and every component of the project. They should have considered such basic data for FR estimation.



23. Karnataka Discoms have also made similar submissions. MPPMCL and MSEDCL have submitted that the capital cost of the instant HVDC transmission system is very high to the tune of around Rs. 20000 crore, and the Commission has approved a transmission tariff of around Rs. 1300 crore annually, vide order dated 29.9.2022 in Petition No 685/TT/2020. This high transmission tariff is burdening the DICs and end consumers. Therefore, the Commission should direct the Petitioner to get some part of the capital costs financed by the PSDF.

24. We have considered the submissions of the TANGEDCO and the Telangana Discoms and observed that they have made similar submissions in the original petition. The submissions made by the Karnataka Discoms on remand are similar to the submissions made by TANGEDCO and the Telangana Discoms. We have already considered the submissions of TANGEDCO and observed that the completion cost has been reduced as compared to the FR cost. The relevant portions of the order dated 29.9.2022 in Petition No. 685/TT/2020 are reproduced as follows:

“35. We have considered the submissions of the Petitioner and the Respondents, MPPMCL, KSEB, TANGEDCO, TSSPDCL and TNSPDCL. As compared with FR cost, the estimated completion cost is reduced by an amount of ₹22082.47 lakh. As Per Form-5 submitted by the Petitioner, it is observed that major reduction on capital cost is due to the following:

(₹ in lakh)			
Particulars	As per Original Estimate	Actual and Projected expenditure	Variation
(a) Preliminary Investigation. RoW, forest clearance, PTCC, general civil works	126683.09	89535.53	-37147.56
(b) Transmission line	586880.08	561613.9	-25266.18
(c) Sub-station Equipment	205691.62	165090.82	-40600.80

36. We have considered the submissions of the Petitioner and we allow the cost reduced. It is further observed that as per FR apportioned approved cost, the estimated completion cost is within FR cost. Hence there is no cost over-run.”

Accordingly, the capital cost claimed by the petitioner is allowed for the purpose of determining the tariff.



25.As pointed out by the Respondents, it is observed that the FR estimates of the Petitioner are on the higher side when compared to the capital cost as on COD and as on 31.3.2024. It shows that the estimates prepared by the Petitioner could have been more realistic. Therefore, the Petitioner is directed to adopt a more prudent approach in the preparation of the cost estimates in the future.

Time overruns

26.As per the Investment Approval dated 5.5.2016, the transmission asset was scheduled to be put into commercial operation within 42 months, i.e. by 5.11.2019. However, the transmission asset was put into commercial operation on 6.9.2020, after a time overrun of 306 days.

27.As regards time overrun, TANGEDCO has submitted that the Petitioner has stated that there was a court case during the award of the HVDC terminal, and due to the court case, there was a delay of 8 months and 9 days. TANGEDCO has submitted that the Petitioner has attributed the time overrun to the delay in the grant of forest clearance, RoW issues throughout the stretch, law and order problems during the construction of transmission lines, litigation, the COVID pandemic, etc. The Petitioner has solved the RoW problems with the intervention of the Central/State/District/local Administration. The RoW issues and court cases (litigation) are common in the execution of transmission projects and, hence, they cannot be considered as *force majeure* conditions. The reasons provided by the Petitioner are unjustifiable and the time overrun may not be condoned. Identical submissions are made by the Telangana Discoms.

28. The Karnataka Discoms have submitted that the Petitioner has attributed the time overrun to litigation, RoW issues, etc. and they cannot be considered as *force majeure* events. Therefore, the time over-run may not be condoned, and the IDC and IEDC should be restricted accordingly.

29. We have considered the submissions made by the TANGEDCO and Karnataka Discoms. It is observed that the submissions of TANGEDCO and Karnataka Discoms are similar to the original petition, and as stated above, we have already considered the submissions of the Respondents in our order dated 29.9.2022. The



Petitioner had attributed the time overrun due to a delay in placing the Notification of Award (NOA) due to court cases, a delay in the grant of forest clearance, RoW issues, and the Covid-19 Pandemic. After going into the reasons for the time overrun in the case of the transmission asset, we have condoned the time overrun of 306 days as the court case, RoW issues, the Covid-19 Pandemic, and delay in the grant of forest clearance cannot be attributed to the Petitioner. The relevant portion of the order dated 29.9.2022 in Petition No. 685/TT/2020 is as follows:

“48. We have considered the submissions of the Petitioner, MPPMCL, KSEB, TANGEDCO, TSSPDCL and TNSPDCL. We have also gone through the documentary evidence placed on record by the Petitioner to justify 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, the scheduled COD was 5.11.2019. However, the transmission asset was put into commercial operation on 6.9.2020. Therefore, there is time over-run of 306 days in execution of the transmission asset.

49. The Petitioner has attributed time over-run due to court cases in award of HVDC terminal contract, delay in getting forest clearance in Gadchiroli-Chandrapur, Bellampalli, Ramgiri, Vellore and Dharampuri for HVDC transmission line, Right of Way (RoW), law and order problems during construction of transmission lines, litigations and Covid 19 Pandemic. Further, the Petitioner vide affidavit dated 11.8.2021 has submitted the details of the activities as planned and their actual execution, which are as follows:

Particulars	Planned		Actual	
	From	To	From	To
HVDC Bipole link between WR (Raigarh, Chhattisgarh) and SR (Pugalur, TM)-North Trichur (Kerala)-Scheme-I: Raigarh-Pugalur 600 MW HVDC System	5.5.2016	5.11.2019	5.5.2016	6.9.2020
Investment Approval	5.5.2016	5.5.2016	5.5.2016	5.5.2016
± 800 kV Raigarh (HVDC Stn.)-Pugalur (HVDC Stn.) HVDC Bipole link	6.5.2016	4.5.2019	27.7.2016	14.5.2020
NOA/LOA	6.5.2016	5.9.2016	31.3.2017	8.6.2017
Forest Clearance Submission and Approval	7.11.2016	6.9.2017	27.7.2016	24.9.2019
Supplies	5.12.2016	5.3.2019	9.5.2017	30.9.2019
Foundation	4.1.2017	4.12.2018	25.5.2017	31.12.2019
Tower Erection	4.4.2017	5.2.2019	25.9.2017	19.3.2020
Stringing	5.9.2017	4.4.2019	23.1.2018	31.3.2020
Testing & Pre-Commissioning	5.4.2019	4.5.2019	25.2.2020	14.5.2020

Particulars	Planned		Actual	
	From	To	From	To
800 kV HVDC Raigarh Station with 600 MW HVDC Terminal	6.5.2016	5.11.2019	8.6.2016	6.9.2020
NOA	6.5.2016	6.7.2016	8.6.2016	25.1.2017
Supplies	6.2.2017	6.5.2019	29.6.2017	27.7.2019
Civil work and Erection	6.12.2016	5.6.2019	5.5.2017	30.11.2019
System Testing & Pre-Commissioning	5.4.2019	4.10.2019	24.6.2019	11.12.2019
Pole-I with HVDC Link	5.4.2019	4.7.2019	24.6.2019	11.12.2019



Final execution of Pole-I	7.10.2019	5.11.2019	16.5.2020	6.9.2020
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Delay in placing the NOA due to Court case

50. One of the bidders, a joint venture of ABB AB and BHEL filed a Writ Petition before the Delhi High Court on 13.5.2016 and the same was disposed on 6.1.2017. As per the submissions of the Petitioner, NOA was planned to be issued from 6.5.2016 to 5.9.2016. However, the NOA could be placed during 31.3.2017 to 8.6.2017. Thus, there is delay in placing of NOA by around 8 months due to court case and this delay cannot be attributed to the Petitioner.

Delay in grant of forest clearance

51. The Petitioner has submitted that the transmission line is traversing through 5 States i.e. Chhattisgarh, Maharashtra, Telangana, Andhra Pradesh and Tamil Nadu. The total line length is 1765 km (approximate) and the total forest area involved is 462.327 Ha. The transmission line encountered five forest divisions which are spread in over 5 number of districts i.e. Gadchiroli Reserve Forest, Bellampalli Reserve Forest, Ramgiri Reserve forest, Vellore and Dharampuri. The details of the proposal, submission of forest clearance and stage-I and Stage-II clearance obtained by the Petitioner are as follows:

Forest	Area	Proposal Submission date	Stage-I clearance	Stage-II clearance	Time taken	As per the Forest (Conservation) Amendment Rules, 2004 timeline for forest approval	Time condonable
Gadchiroli Reserve Forest	432.6791	18.4.2017	31.10.2018	29.9.2020	1260	300	960
Bellampalli Reserve Forest	5.482	27.10.2016	28.5.2018	28.9.2020	1432	300	1132
Ramgiri Reserve forest	15.044	27.7.2016	28.5.2018	28.9.2020	1524	300	1224
Vellore	2.76	20.4.2017	24.9.2019	30.1.2020	1015	300	715
Dharampuri	6.36	20.4.2017	24.9.2019	30.1.2020	1015	300	715

52. The Petitioner applied for grant of forest clearance on 18.4.2017, 27.7.2016 and 20.4.2017 in Gadchiroli, Bellampally & Ramgiri Area and Vellore & Dhramapuri District areas respectively. As per the Forest (Conservation) Amendment Rules, 2004 notified by Ministry of Environment & Forests 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, resulting in processing time of 300 days. As against the statutory period of 300 days for processing and obtaining the forest clearance, the forest authorities have taken additional time of 960 days in case of Gadchiroli Reserve Forest, 1132 days for Bellampalli Reserve Forest, 1224 days for Ramgiri Reserve forest and 715 days for Vellore and Dharampuri for issuing forest clearance. We are of the view that the time taken beyond the mandatory period of 300 days, which in the present case is upto 30.1.2020, is beyond the control of the Petitioner.



Time over-run due to RoW issues

53. *The third reason given by the Petitioner for time over-run is serious RoW issues faced by the Petitioner right from the beginning of the transmission line works which included preliminary survey, line plotting, line scheduling, demand of exorbitant amount of crop compensation, land compensation by land-owners, manhandling of gang workers etc. The detailed account of the RoW issues is given in paragraph 38 above. It is apparent that land-owners filed numerous petitions before the District Collector and Writ Petitions before the Hon'ble High Court and Hon'ble Supreme Court. From the submissions of the Petitioner and documents on record, we find that the Petitioner faced RoW issues from 16.6.2017 till 9.2.2020. We also note that foundation, tower erection and stringing were envisaged to begin on 5.9.2017 and were to be completed by 4.4.2019. However, the Petitioner was able to resolve the RoW issues and thereafter could complete the stringing work by 16.3.2020. The RoW issues persisted upto 9.2.2020 and only thereafter the Petitioner could complete the stringing work by 16.3.2020. Thus, the period from 16.6.2017 to 16.3.2020, in our opinion is beyond the control of the Petitioner on account of persisting RoW issues and Court cases.*

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.*

COVID 19 Pandemic

55. *In March, 2020 Covid-19 pandemic broke out in the country due to which the Government imposed strict lock down as a result of which transportation services such as road, air and railways were suspended with exception of essential goods and emergency services and strict restrictions were imposed for movement from one place to another. The restriction on movement imposed affected suppliers' chains of supply, led to transportation shortage and resulted in worker absenteeism due to illness/quarantine/migrant labour shortages. Thus, the sites were closed on account of Covid-19 outbreak restrictions imposed by the Government of India. The Government unlocked Covid-19 restrictions on 31.8.2020. The Petitioner has submitted that after unlock of Covid-19 restrictions, the Petitioner declared COD of the transmission asset on 6.9.2020.*

56. *It is observed that Government of India, Ministry of Finance, Department of Expenditure, Procurement Policy Division, vide Office Memorandum No. F.18/4/2020-PPD dated 13.5.2020 extended the contracts for a period of three months to six months from 20.2.2020 due to prevailing force majeure conditions. The relevant portion of the O.M. dated 20.2.2020 is extracted hereunder:*



“4. It is recognized that in view of the restrictions placed on the movement of goods, services and manpower on account of the lock-down situation prevailing overseas and in the country in terms of the guidelines issued by the MHA under the DM Act, 2005 and the respective State and UT Governments, it may not be possible for the parties to the contract to fulfil contractual obligations. In respect of Public-Private Partnership (PPP) concession contracts, a period of the contract may have become unremunerative. Therefore, after fulfilling due procedure and wherever applicable parties to the contract may invoke FMC for all construction/works contracts, goods and services contracts and PPP contracts with Government Agencies and in such event, date for completion of contractual obligations which had to be completed on or after 20th February, 2020 shall stand extended for a period of not less than three months and not more than six months without imposition of any cost or penalty on the contractor/concessionaire. Concession period in PPP contracts ending on or after 20th February, 2020 shall be extended by not less than three and not more than six months. The period of extension (between three and six months) may be decided based on the specific circumstances of the case and the period for which performance was affected by the force majeure events.”

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.”

30. We have already considered the reasons submitted by the Petitioner for the time overrun and the objections raised by the Respondents, and we have condoned the time overrun of 306 days in case of the instant transmission asset. We find no reason to differ from the earlier findings.

Initial Spares

31. TANGEDCO, Karnataka Discoms, and Telangana Discoms made similar submissions with reference to initial spares in their replies on remand. They have submitted that the initial spares claimed by the Petitioner for the instant transmission lines is 1.24%, which is higher than the norm of 1% specified in Regulation 23 of the 2019 Tariff Regulations. The initial spares may be restricted to the norm under the 2019 Tariff Regulations.

32. We have considered the submissions of TANGEDCO, Karnataka Discoms and Telangana Discoms. As pointed out by them, the Petitioner has claimed higher initial spares for the transmission covered in the transmission system. Similar submissions



were made by TANGEDCO, Telangana Discoms, and BESCO in the original petition, and as per the usual practice, we have restricted the initial spares for the transmission lines of the transmission system to 1% as specified in the 2019 Tariff Regulations. Therefore, the objections raised by the Respondents are infructuous. The relevant portion of the order dated 29.9.2022 in Petition No. 685/TT/2020 is extracted hereunder:

“65. Initial Spares as claimed by the Petitioner vide affidavit dated 15.12.2021 are as follows:

(₹ in lakh)

Particulars	Plant and machinery cost as on cut-off Date	Initial Spares Capitalised as per Books of Account up to Cut-off Date	Initial Spares Claimed (in %)	Ceiling as per Regulation
	A	B		C
Transmission Line	572938.66	6034.53	1.06%	1.00%
Sub-station (HVDC)	215363.42	7958.62	3.84%	4.00%
PLCC	7670.03	512.61	7.16%	3.50%

66. Initial Spares discharge with respect to transmission asset as per Form-13 submitted by the Petitioner vide affidavit dated 15.12.2021 is as follows:

Particulars	Initial Spares Claimed	Initial Spares Discharge			
		As on COD	2020-21	2021-22	Total
Transmission Line	6034.53	5387.58	48.83	598.12	6034.53
Sub-station (HVDC)	7958.62	3035.86	4922.76	0.00	7958.62
PLCC	512.61	217.99	294.62	0.00	512.61

67. TANGEDCO, TSSPDCL and TNSPDCL have submitted that the Petitioner in the petition has submitted that the Initial Spares for transmission line is marginally high i.e., 1.24% compared to the ceiling of 1% as per Regulation 23 of the 2019 Tariff Regulations. TANGEDCO, TSSPDCL and TNSPDCL have submitted that this is not acceptable and requested to restrict the Initial Spares as per Regulation.

68. BESCO has submitted that Initial Spares as per the Tariff Regulations are allowed only for 1%, as against the claim of the Petitioner for 2.21% relying on the provisions of Power to Relax and Power to Remove Difficulty. Hence, this claim deserves to be disallowed.

69. In response, the Petitioner has submitted that Initial Spares for HVDC sub-stations covered under the petition are within the specified limit under Regulation 23 of the 2019 Tariff Regulations. However, Initial Spares for transmission line is marginally high as per Regulation 23 of the 2019 Tariff Regulations. The Petitioner has requested to allow the Initial Spares as claimed in the instant petition.



70. We have considered the submissions of Petitioner and the Respondents, BESCO, TANGEDCO, TSSPDCL and TNSPDCL. The Petitioner has claimed the Initial Spares of PLCC separately. The Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already considered PLCC to be a part of sub-station. Therefore, the Initial Spares have been computed by combining the cost of both PLCC and sub-station and allowed as per the norms specified for sub-station in the 2019 Tariff Regulations. The Petitioner has claimed excess Initial Spares of transmission line under Power to Relax and Power to Remove Difficulty. However, the Petitioner has not justified excess claim for Initial Spares towards the transmission line. Therefore, Initial Spares claimed towards transmission line is restricted to ceiling of 1%.

71. Initial Spares in respect of the transmission asset are allowed as per respective percentage of the plant and machinery cost as on the cut-off date on individual basis. Initial Spares allowed in respect of the transmission asset are as follows:

Particulars	Plant and Machinery cost (excluding IDC/IEDC, land cost & Cost of Civil Works) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2019 Tariff Regulations (in %)	Initial Spares allowable (₹ in lakh)	Initial Spares disallowed (₹ in lakh)	Initial Spares Allowed (₹ in lakh)
	A	B	C	$D=(A-B)*C/(100-C)$	$E=B-D$	
Transmission Line	572938.66	6034.53	1.00%	5726.30	308.23	5726.30
Sub-station (HVDC) and PLCC	223033.45	8471.23	4.00%	8940.09	NIL	8471.23

”

Additional Capital Expenditure (ACE)

33. TANGEDCO, Karnataka Discoms, and Telangana Discoms have made identical submissions with regard to ACE in their replies on remand. They have submitted that the ACE incurred/ projected to be incurred is mainly on account of Balance/ Retention Payments and, hence, the same may be allowed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. Further, the Respondents have requested to direct the Petitioner to submit the liability flow statement and the details of the works deferred for execution. The ACE may be allowed after a prudence check, and the Petitioner may be directed to produce all the records for the purpose of a prudence check.

34. We have considered the submissions of the Respondents. The Respondents have submitted that the Petitioner should be directed to produce the liability flow statement, and ACE may be allowed only after a prudence check. Similar submissions were made by MPPMCL, TANGEDCO, BESCO, and the Telangana Discoms. It is observed that the Petitioner has already submitted the liability flow



statement, including the details of the balance and retention payments in the main petition vide affidavit dated 11.8.2021, the details of the balance work, and the contractor-wise details. Taking into consideration the submissions made by the Petitioner and the Respondents, we have approved the ACE claimed by the Petitioner under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The objections raised now by the Respondents have already been considered by us in our order dated 29.9.2022. Therefore, we are of the view that there is no necessity for us to intervene in our earlier order. The relevant portion of the order dated 29.9.2022 in Petition No. 685/TT/2020 is as follows:

“74. The Petitioner has claimed that ACE incurred/projected to be incurred is mainly on account of balance/retention payments, hence the same is claimed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. The Petitioner vide affidavit dated 15.12.2021 in respect of the transmission asset has claimed capital cost as on 31.3.2024 and the same is as follows:

(₹ 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	
965798.73	874948.82	52765.62	20627.91	987.88	71.03	949401.26

75. The Petitioner vide affidavit dated 15.12.2021 has updated the claimed capital cost as on 31.3.2024 and the same is as follows:

(₹ 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	
965798.73	878821.09	20463.91	40218.82	4141.41	71.03	943716.26

76. MPPMCL has submitted that the Petitioner has claimed ACE under Regulation 24(1) of the 2019 Tariff Regulations on account of balance/retention payment without providing proper details and justification. MPPMCL has further submitted that the claims of the Petitioner may be allowed in true-up on the basis of actual.

77. In response, the Petitioner has submitted that ACE claimed is on account of balance and retention payments as well as balance work under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. Accordingly, contractor wise details of the ACE (liabilities flow statement) claimed including details of balance and retention payments have already been submitted vide affidavit dated 11.8.2021 and has requested to allow the same as claimed.

78. TANGEDCO, TSSPDCL and TNSPDCL have submitted that the Petitioner has submitted that ACE incurred/ projected to be incurred in respect of the transmission asset is mainly on account of balance/ retention payments, hence, the same may be allowed by the Commission under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. TANGEDCO, TSSPDCL and TNSPDCL has requested the Commission to direct the Petitioner to submit the liability flow statement and details of the works deferred for execution.



79. BESCO has submitted that ACE incurred/ projected to be incurred in the context of the transmission asset is mainly on account of balance/retention payments which can only be allowed as per Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations.

80. In response, the Petitioner has submitted that ACE claimed by the Petitioner is on account of balance and retention payments as well as balance work under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. Accordingly, the contractor wise details of ACE (liabilities flow statement) claimed including details of balance and retention payments have already been submitted vide affidavit dated 11.8.2021 and the same may be allowed as claimed.

81. We have considered the submissions made by the Petitioner and the Respondents, MPPMCL, TANGEDCO, BESCO, TSSPDCL and TNSPDCL. ACE claimed by the Petitioner has been allowed towards balance and retention payments as well as balance work under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. Accordingly, ACE allowed in respect of the transmission asset for 2019-24 period is as follows:

(₹ in lakh)

ACE 2019-24				
Particulars	2020-21	2021-22	2022-23	2023-24
ACE claimed as per Auditor's Certificate	20463.91	40218.82	4141.41	71.03
Add: IDC Discharged	2557.04	1550.34	0.00	0.00
Less: Initial Spares Disallowed	0.00	308.23	0.00	0.00
ACE allowed	23020.95	41460.93	4141.41	71.03

”

O&M Expenses

35. Karnataka Discoms have submitted that the Petitioner's claim of the O&M expenses by including the cost of the switchable line reactors in the O&M expenses of the communication system is unjustified. As per Regulation 35(4) of the 2019 Tariff Regulations, only the original project cost of the communication system can be included in calculating the O&M expenses.

36. We have considered the submissions from Karnataka Discoms. Similar submissions were made by TANGEDCO and the Telangana Discoms in the original petition. Taking into consideration their submissions, the Commission observed in its order dated 29.9.2022 that the Petitioner did not claim any O&M expenses towards PLCC under the Communication Systems. Since O&M expenses have not been claimed for communication system, the issue of including the cost of switchable line reactors in calculating the O&M expenses of communication systems does not survive.



Accordingly, we approved the O&M expenses for the transmission asset in accordance with Regulation 35(3)(i) of the 2019 Tariff Regulations. Therefore, we find no reason to go into the objections raised by Karnataka Discoms now. The relevant portion of the order dated 29.9.2022 in Petition No. 685/TT/2020 is extracted hereunder:

“93. TANGEDCO, TSSPDCL and TNSPDCL have submitted that in computation of the O&M Expenses for communication system, the Petitioner has included the project cost of switchable line reactor in addition to that of communication system’s project cost. Regulation 35(4) of the 2019 Tariff Regulations is very clear that only the original project cost of communication system has to be included in calculating the O&M Expenses and the same is extracted as follows:

“Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

94. TANGEDCO, TSSPDCL and TNSPDCL have submitted that the Commission may exclude the project cost of switchable line reactors in calculating O&M Expenses of communication system and the Petitioner should avoid such imprudent claims in future.

95. In response, the Petitioner has submitted that TANGEDCO, TSSPDCL and TNSPDCL have objected to O&M Expenses claimed for the transmission asset. The Petitioner has submitted that O&M Expenses for 800 kV HVDC terminal has been calculated as per Regulation 35(3)(i) & (ii) of the 2019 Tariff Regulations. The relevant extract of the Regulation is 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;”*

(4) Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

96. Accordingly, the Petitioner has calculated O&M Expenses for HVDC terminal considering the pro-rata of O&M Expenses allowed for similar HVDC i.e. ±800kV Bishwanath-Agra HVDC bipole scheme (₹ lakh) (3000 MW) and O&M Expenses for HVDC transmission line calculated considering O&M Expenses allowed for double circuit quad AC line.

97. We have considered the submission of the Petitioner and the Respondents, TANGEDCO, TSSPDCL and TNSPDCL. It is observed that the Petitioner has not claimed any O&M Expenses towards PLCC under Communication System. Therefore, the contentions of the Respondents TANGEDCO, TSSPDCL and TNSPDCL are rejected.



98. As per Regulation 35(3)(i) of the 2019 Tariff Regulations the O&M Expenses for new HVDC bi-pole schemes put into commercial operation 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. The ± 800 kV Bishwanath-Agra HVDC bipole scheme (₹ lakh) (3000MW) is similar to the instant transmission asset. Accordingly the O&M Expenses for instant HVDC Asset i.e. +/- 800 kV HVDC Bipole Raigarh-Puglur Transmission line has been calculated considering the pro-rata of O&M norms of ± 800 kV Bishwanath -Agra HVDC bipole scheme (₹ lakh) (3000MW).”

Annual Fixed Charges for 2019-24 Tariff Period

37. In light of the discussions above, we are of the view that no new submissions have been made by any of the Respondents and no case has been made out by the Respondents for us to differ from the transmission charges allowed in our order dated 22.9.2022 in respect of the transmission asset for the 2019-24 tariff period. Accordingly, the transmission charges in respect of the transmission asset for the 2019-24 period are as follows:

(₹ in lakh)				
Particulars	2020-21 (Pro-rata 207 days)	2021-22	2022-23	2023-24
Annual Transmission Charges				
Depreciation	26404.06	48232.73	49407.28	49515.32
Interest on Loan	14241.70	24558.93	23284.31	21303.12
Return on Equity	28216.22	51569.88	52854.64	52973.31
O&M Expenses	2121.74	3872.45	4008.71	4148.73
Interest on Working Capital	1054.86	1777.91	1798.61	1776.27
Total	72038.58	130011.90	131353.55	129716.75

38. There are no submissions with respect to other aspects such as filing fees, licence fees, RLDC fees and charges, GST, capital spares, etc, and the directions as per the order dated 22.9.2022 in the instant petition shall be applicable.



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

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

Submissions of MSEDCL:

40. The gist of the submissions made by MSEDCL vide affidavit dated 11.9.2023 are as under:

- a) The Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 (hereinafter referred to as the “2020 Sharing Regulations”) were framed by the Commission after following the due process of public consultation. During that consultative process, the constituents of the Southern Region specifically TANGEDCO, had requested that the Commission include the subject transmission asset in the National Component. However, the Commission, after considering all submissions, had observed that with developments in the sector and changes in the load-generation mix, if the need arises to consider the sharing based on the bi-directional flow of power, the Commission would take the decision in this regard at the appropriate time.

- b) The draft amendment proposed by the Commission deals with the sharing of transmission charges for inter-regional HVDC transmission systems with due consideration for bi-directional power flow. The subject transmission line behaves predominantly in import mode for roughly 6 months. In such a scenario, it would not be appropriate to include the subject transmission line in the National Component until the finalization of the draft third amendment to the 2020 Sharing Regulations. The Commission is therefore, requested to finalize the sharing of transmission charges for the subject transmission system only after finalizing the proposed third amendment to the 2020 Sharing Regulations so that there will not be an unnecessary burden on other DICs and thereby on their end consumers.



- c) The subject HVDC transmission system was considered and commissioned, without getting regulatory approval under the CERC (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”). Therefore, considering the huge investment cost, the Commission is requested to determine the charges to be paid by the beneficiaries only after a prudence check.
- d) If, at all, the subject HVDC system is brought under National Component-HVDC, the Commission is requested to direct the Petitioner to take all the necessary steps to get some part of the recovery of its investment cost through the PSDF.

Submissions of TANGEDCO:

41. The gist of the submissions made by TANGEDCO, vide affidavit dated 11.9.2023 are as under:

- a) The subject transmission corridor was evolved based on the anticipated deficit scenario in the Southern Region at the end of the 12th plan period under the circumstances of the non-firming up of beneficiaries to the IPPs in Chhattisgarh State. Since there was no identified generator at the Raigarh end and no beneficiary tie-up in the Southern Region, the scheme evolved as a system-strengthening scheme. The techno-economic aspects were not deliberated and not brought on record by the Petitioner / CTUIL as suggested by GCIL. Further, neither the Petitioner / CTUIL nor GCIL had ever discussed the capacity restriction in the reverse direction, as the HVDC system has a physical capacity of 6000 MW in both directions.
- b) The tariff petition of the Petitioner should have provided details of regulatory approval obtained from the Commission as mandated under the 2010 Regulatory Approval Regulations. The mandate to follow regulations is laid down in PTC India Ltd vs. CERC and Ors (2004) 10 SCC 603, which mandates that once there is a Regulation framed by the Commission, the CTUIL is bound



to follow the same, and the Commission is bound to check that the Regulations are followed in letter and spirit.

- c) The Commission has been following the principle that there is no possibility of allocating the transmission charges of HVDC systems based on power flow and usage. On the date of CoD of the transmission asset, the 2010 Sharing Regulation 2010 was in force, and in line with the SoR to the 2010 Sharing Regulation, as adopted by the Commission in the case of Biswanath Chariali-Agra, the subject transmission scheme qualifies to be declared a national asset and its charges to be recovered under the national pool.
- d) The transmission charges have been imposed on TANGEDCO and other beneficiaries of the southern region in respect of Biswanath Chariali-Alipurduar-Agra bipolar HVDC and Mundra-Mohindergarh HVDC and recovered by PGCIL.
- e) 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 their reply dated 1.3.2023 filed in Appeal No. 433 of 2022, stated that they have given their recommendation to the MoP for inclusion of the transmission asset under the National Component, and in the same line, CTUIL has submitted to APTEL for inclusion of the asset under the National Component.
- f) The issue of the declaration of the assets as “Strategic and National importance” was flagged in various SRPC meetings held on 12.7.2019, 1.2.2020, and 23.12.2020. SRPC, vide letters dated 30.7.2019 and 2.6.2020 addressed to the MoP and letters dated 7.1.2021 and 13.12.2021 to the Commission, requested that the request of SR constituents be considered.
- g) The transmission scheme, including the associated AC system, has become a vital part of the national grid, and the entire nation will benefit hence, it has been requested to declare it an asset of strategic and national importance.



Submissions of GCIL

42. The gist of the submissions made by GCIL vide affidavit dated 12.9.2023 is as follows:

- a) Growing penetration of variable/ intermittent Renewable Energy (RE) generation, changing load profiles and regional diversity have resulted in large variations in the power flow in the inter-regional corridors.
- b) The maximum net SR export flow was observed to be around 3600 MW in 2018-19. This value has increased to 7900 MW in 2022-23. The installed capacity of Renewable Energy Sources (RES) in the SR has increased from 38620.18 MW in March 2019 to 50282.92 MW in March 2023.
- c) During periods of high export of power from SR, there was considerable flow on the SR to WR corridor. Maximum flow from SR to WR was 4434 MW in 2018-19, while it was 8363 MW in 2022-23.
- d) 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, net SR import, and net SR export during the last six years are indicated in the table below:

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 April 2023 to 10.9.2023

#Covid-19 impact

- e) HVDC Raigarh – Pugalur is operated at its maximum capacity, i.e., 6000 MW in the WR to SR direction during high SR import periods and 3000 MW in the SR to WR direction during high export periods. In 2023-24 (till 10.9 2023), the HVDC Raigarh-Pugalur has mainly been utilized in the forward direction, i.e. from the Western Region to the Southern Region, to facilitate the import of power by the Southern Region.
- f) Considering the changing patterns of generation and demand, particularly in RE-rich regions, all HVDC links should have adequate capability to operate in



both directions. The flexibility in the operation of HVDC helps ensure reliable system operation and manage changing network scenarios effectively.

Submissions of CTUIL vide affidavit dated 12.9.2023:

43. The gist of the submissions made by CTUIL vide affidavit dated 12.9.2023 are as follows:

- a) In view of the large deficit and requirement of the transmission system to meet future demands in the SR, the 4000 MW HVDC bipole link from Raigarh pooling station in Chhattisgarh to Pugalur was agreed upon as a system strengthening scheme. The transmission scheme was discussed in the 37th Standing Committee Meeting on Power System Planning for Southern Region held on 31.7.2014, wherein it was informed that joint studies had been carried out by the CTUIL and the Central Electricity Authority (CEA) to facilitate the import of 16000 MW of power to SR (as SR was facing a huge deficit mainly due to delay/deferment of generation projects and non-availability of gas for existing gas-based generation projects) by 2018-19 based on the pessimistic scenario of non-availability/delay in commissioning of some of the generating stations in SR. After testing the system for contingencies, transmission schemes were put up for discussion in the meeting. It was suggested that, due to the urgent need for power transfer to SR, the Raigarh-Pugalur HVDC could be implemented by KPTCL under the Regulated Tariff Mechanism (RTM). CTUIL (then part of the Petitioner) suggested the implementation of the bipole link with a 6000 MW HVDC capacity in a single phase to meet the urgent requirement of power.
- b) The scheme was further discussed and deliberated upon in the 26th Meeting of the Southern Region Power Committee held on 20.12.2014, wherein it was decided that the Petitioner (then unified) (in its capacity as a transmission licensee) would implement the scheme under a compressed time schedule through RTM.
- c) In the Joint Meeting of the Standing Committee on Power System Planning in the Southern Region and Western Region held on 20.4.2015, it was informed that Powergrid (then unified with CTUIL) had proposed to modify the scope of the scheme, which was different from that agreed in the earlier meeting. CEA



noted, amongst others, that under the proposed modified scheme, the Raigarh-Pugalur 6000 MW HVDC System and the Pugalur-Trichur 2000 MW HVDC System were proposed to be implemented with VSC-based technology instead of earlier conventional HVDC technology.

- d) Subsequently, in the 42nd Standing Committee Meeting on Power System Planning in the Southern Region held on 27.4.2018, concerns were raised regarding the expected development of a large quantum of renewable energy (RE) capacity in SR. Considering the indicated wind potential of about 2500 MW in the Tirunelveli area, an upgradation of the Tuticorin-Salem-Madhugiri Corridor was suggested by the CTUIL. The transmission utility (STU) in the State of Tamil Nadu raised concerns regarding the utilization of the transmission system already planned for the evacuation of power from generating stations in the Tamil Nadu area and informed that the optimal utilization of the Tuticorin PS-Salem (Dharmapuri)-Vasanthanarsapur (Madhugiri) corridor could be seen without upgrading.
- e) Thereafter, 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 Southern Region 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.



- f) A Joint Study Meeting of SR constituents was held on 30.6.2022-2.7.2022 to discuss various transmission proposals where SRLDC requested that options be explored for utilization of HVDC links like the Raigarh-Pugalur HVDC and the Talcher-Kolar HVDC in reverse mode for export of surplus power during peak RE scenario. CTU clarified that, based on the feedback received from POSOCO, adequate ICT augmentation has been planned and is being implemented at the Raigarh and Kotra sections in WR to facilitate the operation of the Raigarh-Pugalur HVDC link in reverse mode, with this augmentation, power flow of the order of 3000 MW may be exported through the Raigarh-Pugalur HVDC to NEW grid.
- g) In this manner, the reverse flow on the Raigarh-Pugalur-Trissur HVDC system (to the extent of 3000 MW) was to take place after adequate ICT augmentation at the Raigarh and Kotra sections in WR.
- h) The HVDC in question was planned to import power from the WR to the SR, and the 6000 MW Raigarh-Pugalur-Trissur HVDC system was planned to facilitate direct interconnection between pit head generating stations in Chhattisgarh and load centres in the SR. It was only later, in view of the surplus scenario and optimistic RE capacity addition projections, that it was proposed to use the said HVDC system for the export of power as well (bi-directional). From the identification stage, the HVDC system had been agreed upon for a 6000 MW import to the SR. However, the HVDC system has been implemented by the Petitioner with a provision of 3000 MW in reverse mode without any additional cost.
- i) In view of the surplus scenario and optimistic RE capacity addition projections as part of the Government of India's target of achieving 175 GW of renewable power by 2022 and 500 GW of renewable power by 2030, it is likely that SR would become surplus in power on many occasions. On such occasions, the Raigarh-Pugalur HVDC transmission link will also be utilized for the export of power outside SR (bi-directional), which will facilitate optimal utilization of existing inter-regional links, thereby reducing the need for the identification/



implementation of additional inter-regional links for the export of surplus power from SR. Therefore, the HVDC transmission link is likely to be utilized for both the import and export of power under various operating conditions and may be considered a National Component under the 2020 Sharing Regulations. The same has been proposed by the CTUIL 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 the declaration of HVDC transmission link as a National Component.

- j) Inter-regional capacity between the Southern Region and the Western Region is 18120 MW, and between the Southern Region and the Eastern Region is 7830 MW.
- k) The Present Available Transfer Capability (ATC) for the import of power from the North-West-East (NEW) grid to the Southern Region (SR) grid is 18900 MW, which is declared on the CTUIL's website. The ATC is further expected to enhance to about 23700 MW with the CoD of identified additional inter-regional links, viz. Warora – Warangal New 765 kV D/C link, which is expected by September/ October 2023 and Narendra–Pune 765 kV D/C link, which is expected by July 2024. Out of this ATC, LTA of about 20,000 MW has already been granted under the Grant of Connectivity, Long-term Access, and Medium-term Open Access in inter-State Transmission and related matters Regulations, 2009 (hereinafter referred to as the “2009 Connectivity Regulations”). Further, out of the present ATC of 18900 MW, granted LTAs of about 7500 MW are under operation. Further, utilizing the present import ATC, Southern Region beneficiaries have imported 16020 MW of power from the NEW grid during peak load on 10.3.2022 and 17496 MW on 8.8.2023.
- l) The present ATC for the export of power from SR Grid to NEW Grid is 5950 MW (as on September 2023), as declared by GCIL on its website. The export ATC is expected to be enhanced to about 10,340 MW with the CoD of the Narendra-Pune 765 kV D/C line (expected schedule by July 2024), considering 3000 MW on the Raigarh-Pugalur HVDC link in reverse mode. Out of this



present export ATC, an LTA of 4650 MW has been granted, and 2350 MW is already under operation for export/ supply of power from SR Grid to beneficiaries in NEW Grid. Further, utilizing the present export ATC, SR has already exported about 6968 MW to the NEW grid during the high RE season on 10.8.2022 and 5109 on 27.7.2023. During this peak export, 3000 MW has been exported utilizing the Raigarh-Pugalur HVDC system in reverse mode.

- m) Further, an additional LTA of about 3450 MW has already been granted with the enhancement in ATC with the CoD of the Narendra-Pune 765 kV D/C link. It is further envisaged that the export requirement may be further enhanced with the large integration of identified RE potential in SR.
- n) No new HVDC system has been planned for the evacuation of RE power from SR to other regions.
- o) During the joint study meeting from 30.6.2022 to 2.7.2022 at SRPC, Bengaluru and during the 43rd SRPC meeting on 23.9.2022, the need for enhancement of the export capability of the Raigarh-Pugalur HVDC system to 6000 MW was highlighted. This was necessary to facilitate the export of power from the Southern Region during the peak RE scenario. The matter was referred to the Petitioner vide email dated 14.10.2022, to confirm the feasibility with respect to the design for enhancing the reverse power flow capability to 6000 MW on the Raigarh-Pugalur HVDC system. The Petitioner vide email dated 6.3.2023 replied to CTUIL that the matter has already been taken up with the Original Equipment Manufacturer (OEM) and a response from the OEM is expected shortly. The response in the matter is still awaited.

Submissions of Kerala State Electricity Board (KSEBL):

44. KSEBL, vide affidavit dated 12.09.2023, has submitted as under:

- a) Generally, the transmission lines are planned and constructed based on the LTA application(s) submitted by the beneficiaries (recipient procurers of power). However, the RPT HVDC system was not planned on the basis of any LTA Application(s), rather, it was planned in anticipation of setting up of huge



capacity of generating stations in the State of Chhattisgarh and in anticipation of increased demands in the southern region of the country.

- b) In view of the substantial addition of RE generation capacity in the southern region, there is a surplus of RE power in the southern region. The RPT HVDC system was originally planned for the transmission of power from the proposed IPPs in Chhattisgarh. However, by the time it was operationalized, it had been found to actually be utilized for the transmission of RE power from SR to the National Grid for further transmission to other regions of the country. The beneficiaries of this system are all the states and regions in the country, not just the SR. It squarely falls within the concept of the National Component.
- c) Considering the importance of this asset for renewable energy integration, the funding from PSDF/ NCEF be used to reduce the Yearly Transmission Charges of the project. Regarding the PSDF/ NCEF grant, the Petitioner has not made any genuine efforts to avail the grant on par with the Biswanath Chari-ali-Agra HVDC link. In the case of the Biswanath Chari-ali-Agra HVDC link, PGCIL had sought a grant for 50% of the capital cost to be covered by the funding from PSDF, whereas in the case of the transmission system, the Petitioner has sent letters to the PSDF funding agency seeking funding only to the extent of 15%. This discriminatory approach adopted by PGCIL is entirely arbitrary and impermissible.

Reply of Southern Power Distribution Company of Telangana Limited (TSSPDCL) And Northern Power Distribution Company of Telangana Limited (TSNPDCL) :

45. Some of the submissions made by the Telangana Discoms are similar to the submissions made by TANGEDCO, and therefore, they are not repeated. The other submissions made by the Telangana Discoms vide affidavit dated 13.9.2023 are as follows.

- a) It is evident that a dedicated HVDC system between Mundra and Mohindergarh, developed by a private generator for the transfer of power to a particular beneficiary with uni-directional power flow, was converted into ISTS.



Later, the Commission directed that the tariff of part capacity of 1005 MW of the said asset be included in the PoC pool to be shared by all the DICs. Subsequently, the same has been adopted in the 2020 Sharing Regulations by implication.

- b) The transmission charges have been imposed on Telangana and other SR beneficiaries in respect of Biswanath Chariali- Alipurduar-Agra bipolar HVDC and Mundra-Mohindergarh HVDC and recovered by the Petitioner. The Commission is requested to direct the Petitioner to avail of a 100% grant from MoP considering the flagship nature of the project, which has been executed without the approval of the Commission.

Submissions of Bihar State Power (Holding) Company Limited (BSPHCL):

46. The gist of the submissions made by BSPHCL vide affidavit dated 13.9.2023 are as follows:

- a) The views of statutory authorities, i.e. CEA, CTUIL, and GCIL, need to be taken into consideration while coming to any conclusion regarding the status of the transmission system.
- b) The transmission system has been implemented by the Petitioner with a huge investment, of about Rs. 20,000 crore and if this system is treated under the National Component, then the ER constituents have to bear transmission charges of extraordinarily huge amounts, which may run into crores per month without even getting any direct benefit from the said system, and it would lead to an undue financial burden upon BSPHCL, which would ultimately impact the consumers.
- c) Out of five regions, three are not at all the beneficiaries of this HVDC system, as it was purely constructed for the beneficiaries of the two regions, namely the SR and WR constituents. There is no catering of any nature to the ER region to which the BSPHCL belongs, and hence, there is no logic at all to burden the



BSPHCL with the transmission charges by bringing the subject system under the National Component.

- d) The transmission scheme cannot be considered in the National Component as per the existing 2020 Sharing Regulations as it has neither been developed for the National Component-Renewable Energy nor the National Component-HVDC.
- e) In the draft third amendment to the 2020 Sharing Regulations, this Commission has proposed that if more than 30% of power flows in the reverse direction in the HVDC inter-regional links, the YTC of such an HVDC line would be considered a National Component. However, as per the MoP's letter dated 30.5.2022, the finalisation of this figure needs to be done in consultation with stakeholders, including GCIL, CEA, and CTUIL.

Submissions of Madhya Pradesh Power Management Company Limited (MPPMCL)

47. The gist of the submissions made by MPPMCL vide affidavit dated 13.9.2023 are as follows:

- a) The proposed draft third amendment to the 2020 Sharing Regulations may be finalized by the Commission with due consideration of the views of stakeholders (GCIL, CEA, and CTUIL) before taking any decision in the instant petition.
- b) The purpose of the execution of the transmission asset and associated system was to transmit power from power rich-WR to Power-deficit SR way back in 2015. It was not conceived for the evacuation of power from SR to WR. It is very important to take note that the power which is transmitted from WR to SR is conventional power, which is RTC in nature and is available throughout the year. From SR to WR, mainly renewable power is transmitted, which is fluctuating in nature and is not available throughout the year.

Submissions of Sembcorp Energy India Ltd. (SEIL)



48. The gist of the submissions made by SEIL, vide affidavit dated 13.9.2023 are as follows:

- a) With the recovery of transmission charges for the transmission asset as per order dated 29.9.2022 through NC (30%) and RC (70%), there has been an exorbitant and belated increase in the transmission charges since the transmission charges for the transmission asset are being recovered by CTUIL primarily from the DICs located in the SR.
- b) The high bills are having an adverse impact on SEIL. This Commission has the power to consider the recovery of transmission charges for a transmission asset under the NC, to re-evaluate an HVDC system based on the development and change in load generation mix, and to consider the sharing of transmission charges under the NC, based on the bi-directional flow of power. This Commission may consider sharing 100% of the transmission charges of the transmission asset under NC, considering the change in the nature of the transmission asset from what was originally conceptualized and the current bi-directional flow and benefit to the entire grid.
- c) The transmission asset, as proposed in 2014, subsequently underwent a change and was developed as a “System Strengthening Scheme” for the national grid to boost the usage and transmission of renewable energy across the country. It is for the benefit of the entire country and not for SR alone.
- d) This Commission has exercised its powers to declare the Biswanath Chariali and the Mundra-Mohindergarh HVDC systems as national assets and included them under the ‘National Component’ under the 2020 Sharing Regulations. In the present case, a similar dispensation ought to be given.

In accordance with the recommendation of the MoP, this Commission may include the transmission asset under the National Component under the 2020 Sharing Regulations.



Submissions of Bangalore Electricity Supply Company Limited, Gulbarga Electricity Supply Company Limited, Hubli Electricity Supply Company Limited, MESCOM, Chamundeswari Electricity Supply Corporation Limited (Karnataka Discoms)

49. The Karnataka Discoms have made the following submissions vide affidavit dated 13.9.2023:

- a) The order of the APTEL has attained finality as the same has been upheld by the Supreme Court of India vide order dated 18.8.2023, in Civil Appeal No.4959 of 2023. Therefore, the issue stands covered by the orders passed by the APTEL, and this Commission may pass consequential orders in light of the order of the APTEL and declare the transmission system a national asset.
- b) The transmission system is one of the important elements of the National Grid, which provides flexibility, stability, and renewable energy integration. Therefore, the transmission system has to be treated as a national and strategic transmission system of national importance, and 100% yearly transmission charges may be considered under the National Component.
- c) The transmission asset was envisaged as a system-strengthening scheme for the whole nation, not a dedicated transmission of power to the Southern States. The name of the transmission asset itself indicates that it was intended for “system strengthening”. The Petitioner has availed of a loan from the Asian Infrastructure Investment Bank, wherein the Project Document is titled “Republic of India, Transmission System Strengthening Project”.
- d) As observed by the APTEL, the CTUIL, vide communications dated 26.4.2022 and 29.4.2022 proposed that the transmission system be considered in the National Component, apart from the letter of MoP dated 30.5.2022.
- e) The tariff petition ought not to be entertained in the absence of Regulatory approval as mandated under the Tariff Policy and under Regulation 3 (ii) of the 2010 Regulatory Approval Regulations. The tariff claimed cannot be granted in



the absence of mandated regulatory approval. The mandate to follow regulations is laid down by the Supreme Court in *PTC India Limited vs. CERC*, (2010), 4 SCC 603, which mandates that the Commission is bound to check that the Regulations are followed in letter and spirit. In the circumstances, the petition merits to be rejected.

Reply of Eastern Power Distribution Company of Andhra Pradesh Ltd. and Southern Power Distribution Company of Andhra Pradesh (AP Discoms)

50. The gist of submissions made by AP Discoms vide affidavit dated 20.9.2023 submitted as under:

- a) The subject HVDC System is of national importance, and its transmission tariff should be borne on an all-India basis. The burden of bearing transmission charges from the transmission system should not be solely on the SR beneficiaries.

- b) Section 79(1)(c) of the 2003 Act stipulates that this 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 this Commission under Section 79(1)(d) of the 2003 Act. Section 79(1)(f) of the 2003 Act further stipulates that this Commission is empowered to adjudicate upon any disputes involving transmission licences, inter alia, with respect to Sections 79(1)(c) and (d) of the Act. This Petition involves, inter alia, disputes concerning (i) regulation of the transmission system, which is an inter-State transmission system; and (ii) sharing of the transmission tariff of the transmission system. This Commission is therefore, empowered under the 2003 Act to adjudicate upon the petition and declare the transmission system to be of national importance.

- c) The intended purpose of the transmission system was for the uni-directional transfer of surplus power from power plants in the Chhattisgarh region to the beneficiaries of the SR. This was primarily due to the power deficit projected in the SR. However, over time, the transmission system underwent substantial changes and has resulted in the utilisation of a bi-directional flow of power. The



transmission system is now being used for the benefit of the entire country, in addition to the Southern and Western Regions. This position has been admitted and affirmed by CTUIL, the primary statutory body for planning and coordinating inter-State transmission systems, constituted under Section 38 of the 2003 Act.

- d) Additionally, on 09.04.2019, this Commission published the Report of the Task Force to review the Framework of Point of Connection (PoC) Charges headed by Shri. A S Bakshi. In view of the nationwide benefits of HVDC systems, even this expert report suggested sharing transmission charges for the Subject HVDC System on an all-India basis.
- e) These HVDC lines will relieve the load on the intervening AC network. These lines are similarly placed as the Mundra-Mohindergarh and BNC-Agra lines, which have been considered assets of national importance.

Submissions of the Petitioner

51. The Petitioner vide affidavit dated 26.9.2023 submitted as under:

- a) The Respondents have misinterpreted the provisions of the said Regulations in light of the facts and circumstances of the present case. In the said Regulation, i.e., at Regulation 3(2), it is categorically provided that the 2010 Approval Regulations do not apply to the ISTS Scheme, for which all the beneficiaries have signed the Bulk Power Transmission Agreement (“BPTA”) to share the transmission charges.
- b) In the present case, SR beneficiaries have signed the BPTA with CTUIL and later the Transmission Service Agreement (“TSA”) dated 5.8.2011 in terms of the 2010 Sharing Regulations. In the present case, there was a BPTA, and later the TSA was signed. Therefore, the 2010 Regulatory Approval Regulations are not applicable in the present case. TANGEDCO and other SR beneficiaries were part of several meetings wherein it was discussed that a transmission system was planned for the transmission of power from WR to SR, and there has been discussion on the system strengthening of the said



assets. Therefore, TANGEDCO and other beneficiaries/ Respondents ought not to raise such frivolous grounds.

- c) The said TSA specifically provides that new elements that are identified by CEA and CTUIL will be part of the Model TSA, and the sharing of transmission charges shall be in accordance with the applicable Sharing Regulations.
- d) The transmission scheme was approved after deliberations and agreement reached in various meetings in the Southern / Western Region Power Committee and Standing Committee Meetings, where SR beneficiaries were part of and actively participated in the meetings.
- e) It may also be pertinent to mention that the Chief Minister of State of Tamil Nadu, presented a Memorandum dated 10.06.2014 to the Prime Minister of India for urgent implementation of the present project, of which subject assets are part, so as to cater for the power requirements of the State.
- f) In the case of system strengthening, no regulatory approval has been obtained as the scheme is deliberated and agreed upon in various planning forums envisaged under the 2003 Act and becomes part of TSA. The said submission by the Respondents/ beneficiaries should be dismissed.
- g) In the initial proceedings, there was no mention of the MoP letter either by the TANGEDCO or any other party. Probably, this was the reason why the Commission had not referred to it while passing the order dated 29.9.2022. The MoP letter dated 30.5.2022 also recognizes that, as per the existing 2020 Sharing Regulations, the transmission charges for HVDC schemes are shared in a ratio of 70% as a Regional Component and 30% as a National component. However, the APTEL has decided that this letter ought to be considered by this Commission.
- h) The Commission, vide notification dated 12.6.2023, has proposed to amend the 2020 Sharing Regulations. The proposed amendment has to follow the



procedure prescribed under Section 178 of the 2003 Act and has to follow a public consultation process. Further, in response to a parliament question on the same issue in the Rajya Sabha on 1.8.2023, the MoP replied that this Commission is in the process of amending its 2020 Sharing Regulations on the basis of the bi-directional flow of power.

- i) The Biswanath Chariali-Alipurduar-Agra HVDC Line and Mundra Mohindergarh HVDC Transmission Line were decided during the 2010 Sharing Regulations regime, which provided for a slightly different regulatory regime. These transmission assets have been recognised to have a different sharing in terms of Regulation 5(3) of the 2020 Sharing Regulations. However, for new HVDCs, this Commission can decide on the issue of sharing.

Submissions of CTUIL

52. In response to the queries of the Commission in the RoP dated 27.9.2023, CTUIL, vide affidavit dated 3.10.2023 has made the following submissions:

- a) While the HVDC System was allocated to the Petitioner and was under implementation, the Government of India has set a target for establishing 175 GW of renewable capacity by 2022, which includes 100 GW from Solar and 60 GW from Wind. Out of 66.5 GW of RE potential, 18.5 GW of Solar and Wind generation potential was envisaged to be developed in SR progressively by 2021, which includes 10 GW of Solar generation and 8.5 of Wind generation to be developed in Phases I and II.
- b) During the identification of the transmission system, it was envisaged that with the high penetration / implementation / potential of wind and solar generations in SR, the region is expected to become power surplus in limited seasons during the year (especially from June to September, when SR generally experiences off-peak load conditions), and in certain conditions/ hours (peak sun time period), the surplus may be observed to the extent of 29,000 MW. This surplus power would have to be absorbed in other regions, particularly the Western and Northern Regions (generally peak load seasons).



- c) Detailed studies were carried out for the 2021-2022 time frame, considering the available inter-regional links between SR Grid and NEW Grid, which included the Raigarh-Pugalur HVDC link for 3000 MW in reverse direction for the facilitation of the export of power to NEW Grid. The identified transmission system for RE integration was deliberated with the SR constituents in the 1st and 2nd Southern Region Standing Committee on Transmission (SRSCT) held on 7.9.18 and 10.6.19 respectively. The transmission system was agreed upon for technical requirements. However, it was decided that the schemes would only be taken up for implementation as ISTS consequent to the grant of LTA. Reverse power flow on the Raigarh-Pugalur HVDC System was envisaged in June, 2019 itself, with 18.5 GW of RE potential integration in SR as per the projections of MNRE/ SECI.
- d) The transmission system planning is carried out (as per the technical guidelines provided in the CEA's Transmission Planning Criteria) purely on technical requirements based on the receipt of connectivity/ LTA applications and/ or feedback of the operator (i.e. GCIL) and/ or anticipated system studies for future projections of load-generation balance. The reverse power flow of 3000 MW capacity on the transmission system for export of surplus RE power on large-scale RE integration was deliberated with the SR constituents in the SRSCT held on 10.6.19.
- e) The transmission charges are shared by the beneficiaries as per the Sharing Regulations, and the nature of the elements is specified on CoD for inclusion in NC/RC/TC/AC. Further, under the transmission planning process, the nature of the transmission elements does not influence the planning process. However, as provided in the 2020 Sharing Regulations, transmission elements identified for renewable energy integration shall be invariably included in the National Component.
- f) The peak surplus condition or the peak deficit condition may occur for a very short period of time across the year. However, transmission systems should be available to cater to such conditions of power flow requirements under the



CEA's Transmission Planning Criteria. The HVDC transmission link is likely to be utilized to its full designed capacity in both directions for import (6000 MW) and export (3000 MW) of power under various operating conditions. Further, the power flow on the HVDC System is modulated as per the requirements to control the power flow on the other parallel Inter-Regional AC links.

- g) As the HVDC System is being utilized in both directions (import-6000 MW and export-3000 MW) to its full quantum, CTUIL is of the opinion that the transmission asset may be considered a full 100% National Component under the 2020 Sharing Regulations.
- h) The details of inter-regional bi-pole HVDC transmission systems in India as below:

INTER-REGIONAL BI-POLE HVDC TRANSMISSION SYSTEMS IN INDIA				
Sl. No.	Name of HVDC Project	Capacity (MW)		Remarks
		Forward Direction	Reverse Direction	
1.	± 500 kV, 2000 MW Talcher-Kolar	2000 2500 (overload capacity for 10 hours in 24 hours)	1900	Testing of reverse power under load has not been carried out, probably due to missing consumption at Talcher at that time. Matter has been taken up with OEM and response is awaited.
2.	± 500 kV, 2500 MW Ballia-Bhiwadi	2500	2375	
3.	±800 kV, 6000 MW North East-Agra Multi Terminal (Biswanath Chariali– Alipurdwar-Agra)	6000	1500/1000	Reverse power facility available in Bipole-I (i.e. from Agra to Biswanath Chariali) only. 1500 MW for Bipole operation & 1000 MW for Monopolar operation.
4.	± 800 kV, 6000 MW Champa- Kurukshetra	6000	0	Reverse power has not been envisaged under Champa-Kurukshetra HVDC Project.
5.	± 800 kV, 6000 MW Raigarh-Pugalur	6000	3000	

53. The Commission reserved the order on 4.10.2023 and directed the parties to file their Written Submissions.



54. CSPDCL, in its Written Submissions dated 9.10.2023 has submitted as follows:

- a) The plea of TANGEDCO, KSEB, and AP Discoms seeking a declaration of the transmission system as an asset of strategic and national importance and as part of the National component would amount to an amendment of the 2020 Sharing Regulations which is impermissible in the present proceedings.
- b) At the time of framing the 2020 Sharing Regulations, this Commission considered the objections and submissions of various stakeholders, which include TANGEDCO, KSEB, and AP Discoms to consider and declare the transmission system an asset of strategic and national importance and as part of the National component. However, this Commission has rejected the contention made by the said Discoms and denied the inclusion of the transmission system as an asset of strategic and national importance and as part of the National component.
- c) There could only be two HVDC systems under the purview of the National component 1) HVDC system for RE and 2) HVDC lines expressly made as National components with their implementation and purpose, for which 100% of the transmission charges will be made as National Component. However, the transmission system does not fall under any of the above categories. Therefore, only 30% of the transmission charges of the transmission system can be made as part of the National Component, and any deviation from it would be tantamount to amending the 2020 Sharing Regulations, which is impermissible in the present proceedings.
- d) The transmission scheme, which was an inter-regional scheme linking the WR to the SR, was evolved after detailed discussions and deliberations as a System Strengthening Scheme with full participation of all beneficiaries including TANGEDCO. TANGEDCO was involved/ consulted at every stage of the planning and approval by SRPC.



- e) From the conjoint reading of the provisions of the 2020 Sharing Regulations, Statement of Reasons notified by this Commission while notifying the 2020 Sharing Regulations, and Explanatory Memorandum, it is clear that all the objections made by TANGEDCO, KSEB, AP Discoms, which are part of the present proceedings, were also raised during the framing of the 2020 Sharing Regulations, and this Commission, while passing the detailed order, did not accept all the contentions of the said Discoms, passed and notified the 2020 Sharing Regulations. Therefore, re-agitation of the same arguments on the part of TANGEDCO, KSEB, and the AP Discoms, which were part of the decision-making process of the 2020 Sharing Regulations, will be tantamount to an amendment of the 2020 Sharing Regulations.
- f) The transmission system was originally planned, intended, and implemented for the exclusive use of power in a forward direction (WR to SR) by SR for the supply of power from WR, specifically from Chhattisgarh, due to the scarcity of power in SR. Therefore, it is clear that the intention, purpose, planning, and implementation of the Transmission System were on a regional basis only to cater to the power demand of SR.
- g) Further, the need for declaring the transmission system has also not arisen as on date because the reverse directional flow of power from RE sources in SR is intermittent as well as very minuscule, which is visible from the data produced by GCIL as on the year, 2023 when the power flow from WR to SR (forward direction) is nearing its optimal utilisation. However, the power flow from SR to WR (reverse direction) is minuscule, and it will take many years to reach its optimal capacity utilisation.
- h) In the judgement dated 18.7.2023 in Appeal No. 433 of 2022, the APTEL has not made a single observation that this Commission has to amend the 2020 Sharing Regulations; hence the remand is an open remand.
- i) The judgement of APTEL dated 18.7.2023 in Appeal No. 433 of 2022 is silent on the amendment of the 2020 Sharing Regulations and further said remand



order failed to answer whether in the appellate proceedings or in adjudicatory proceedings before the Commission, pleas of parties seeking amendment of Regulations are permitted or can be directed to make amendment. Hence, in the present case, the doctrine of sub-silentio is applicable.

55. Mangalore Electricity Supply Company Limited (MESCOM) in its Written Submissions dated 9.10.2023 has made the following submissions:

- a) The APTEL, vide judgement dated 18.7.2023, observed that the transmission system is to be utilised for the import and export of power under various operating conditions and may be considered a National Component under the 2020 Sharing Regulations. Therefore, APTEL decided that the transmission system is an asset of strategic and national importance, and the charges are to be shared on an all-India basis.
- b) The transmission system is one of the important elements of the National Grid, which provides flexibility, stability, and renewable energy integration.
- c) The Petitioner has availed of a loan from the Asian Infrastructure Investment Bank, wherein the Project Document is titled “Republic of India, Transmission System Strengthening Project” which stipulates that a more integrated electricity grid will be able to facilitate electricity transfer from surplus to deficit areas, encouraging power trading across regions. It also helps to optimize the whole electricity system and improve the generation mix, thereby making it possible to utilize unevenly distributed renewable energy resources. Therefore, the transmission system was not meant to cater to any one particular region or the SR alone.
- d) The Bakshi Committee Report has recommended that the transmission system be treated as a National Asset/ sharing of charges through the National pool.

56. Grid Corporation of Orissa (GRIDCO) in its Written Submissions dated 9.10.2023 has submitted as follows:



- a) Even though beneficiaries of the Eastern Region (ER) will not get any power through the transmission System, since it is covered under the 'National Component', by virtue of Regulation 5(3)(d) of the 2020 Sharing Regulations, beneficiaries of the ER will have to pay 30% of the yearly Transmission Charges.
- b) The Commission is bound by the Regulations. It is, therefore, not open to the Commission to allow more than 30% of the Yearly Transmission Charges as a part of 'National Component' in view of Regulation 5(3)(d) of the 2020 Sharing Regulations. It has been held by the Supreme Court in the case of PTC India Limited (2010), 4 SCC 603, that if there is a Regulation, then whatever charges the Commission determines have to be in conformity with the Regulations.
- c) The suggestion of the MoP in the letter dated 30.5.2022, that the transmission system can be considered a National Component as per the 2020 Sharing Regulations, is in the teeth of the said Regulations. The further proposal in the letter dated 30.5.2022 of the MoP that the transmission charges of all HVDC Inter-Regional Links under the National Component with 100% Transmission Charges to be borne by all DICs are also contrary to the 2020 Sharing Regulations.
- d) As held by the Supreme Court in Paragraph 17 of the PTC Judgment (2010), 4 SCC 603, the letter dated 30.5.2022 of the MoP cannot be taken into consideration by the Commission for deciding the issue in question.
- e) There cannot be any justification for treating all HVDC Inter-Regional Links as National Components with 100% Transmission Charges to be shared by all the designated ISTS Customers merely on the basis of 'bi-directional Power Flow'. The consumers of the regions that do not receive any power by virtue of such 'bi-directional Power Flow' cannot, therefore, be burdened with such charges contrary to the Regulations.



- f) Any direction for sharing of transmission charges among all constituents, irrespective of usage, will be arbitrary and, irrational and will be in violation of the principles laid down in the National Electricity Policy, 2005/ Tariff Policy, 2016 as well as contrary to the 2020 Sharing Regulations.
- g) Since the transmission System is in no way beneficial to or utilized by Odisha, Consumers of Odisha cannot be burdened with the transmission charges of the said system, contrary to Regulations.
- h) The orders of the Commission treating the HVDC Biswanath Chariali-Agra (BNC-Agra) Line of National and Strategic Importance and directing the tariff of the same to be shared by beneficiaries of all Regions were given in different facts and circumstances and are under appeal before the APTEL in Appeal No. 349 of 2017, Appeal No. 377 of 2018, and Appeal No. 33 of 2021.

57. AP Discoms have made the following submissions in their Written Submissions dated 9.10.2023:

- a) This Commission, by an order dated 8.1. 2016, held that the Third Amendment to the 2010 Sharing Regulations and its Statement of Reasons empower this Commission to declare an HVDC line to be of national importance. Consequently, it was held that this Commission may require the sharing of tariffs by all the regions under the PoC Mechanism. Similarly, this Commission followed the same principle in the order dated 31.8.2017. It is therefore clear that, in terms of the 2010 Sharing Regulations, this Commission is empowered to declare the Transmission Line of national importance. Consequently, this Commission may require the sharing of the tariff on a national basis, as the entire grid benefits from the establishment of the transmission line.
- b) Load generation and bi-directional flow on a projected basis formed the basis of the declaration of a national asset in the decisions dated 8.6.2013 and 14.6.2013 of this Commission concerning the North-East Northern/Western Interconnector Project and the Dehgam–Mundra–Mohindergarh–Bhiwani link.



The APTEL, in its judgement dated 18.7.2023, has also affirmed this criterion. The judgement specifically found that the consideration is required to be on a projected basis, and actual present utilisation is not the sole determinative criterion. This has in turn been crystallised as binding in view of the orders of the Supreme Court upholding the APTEL's judgement. Consequently, this Commission is bound by law to declare the transmission system, including the transmission asset, as assets of national and strategic importance for the purpose of sharing the transmission tariff.

58. Bihar State Power Holding Company Ltd. (BSPHCL), in its Written Submissions dated 10.10.2023, has submitted as follows:

- a) BSPHCL is not the beneficiary of the subject transmission project and thus cannot be burdened with high transmission charges by the inclusion of the HVDC system in question under the national component:
- b) Third amendment should be finalised first, and if all the subject HVDC system are brought under the National Component-HVDC, Commission should direct the Petitioner to approach the PSDF or NCEF for Financial Assistance. Further, the claims (if allowed) should be allowed only prospectively.

59. GCIL (Grid-India) its Written Submissions dated 10.10.2023 has submitted as follows:

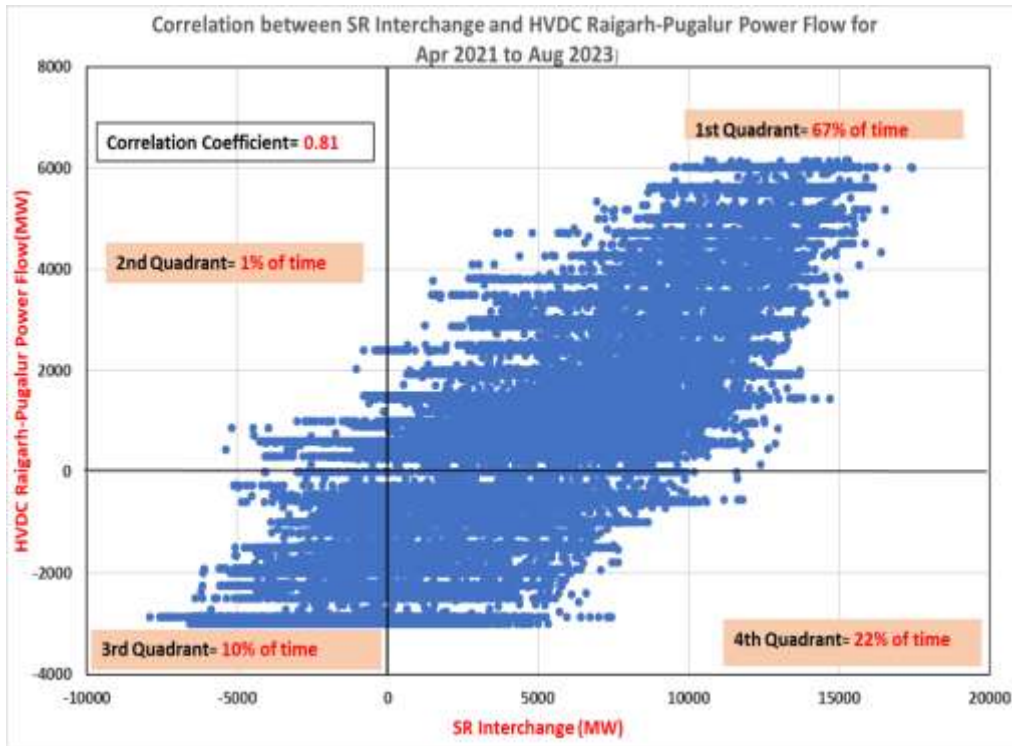
- a) The energy transmitted through the transmission system computed via the Special Energy Meter at Raigarh bus in the forward direction (West to South) and in the backward direction (South to West) in Million units (MU) over the last two financial years and month wise data of maximum quantum of power (in MW) exported (South to West) versus the maximum quantum of power imported (West to South) in any time block in a day from RPTL as recorded in SCADA telemetry (10 second data sample) at the sending end for the period March 2023 to August 2023 have been submitted. . Mundra-Mohindergarh HVDC has been used in the reverse direction (NR to WR). The month-wise data of the maximum quantum of power flow (in MW) in any time block in a day from NR to WR for the period March 2020 to August 2023 as recorded in SCADA telemetry at the sending end



has been submitted. While the reverse flow from March 2020 to August 2021 was nil, it carried 503 MW in September 2021, 986 MW in April 2022, 1013 MW in May 2022, and a varying quantum from 255 MW – 1583 MW in November 2022- July 2023.

- b) The large-scale addition of renewable energy sources in recent years, which are variable and intermittent in nature, has necessitated the requirement of adequate flexibility on the transmission side of the power system. Grid-India optimizes the utilization of the HVDC links, both in terms of power and direction, to address these unprecedented operational challenges, relieve congestion, and ensure optimal utilization of the transmission network. The advantage of having controlled power flow through the HVDC links has proved to be helpful to real-time grid operators in managing voltage, angular separation, and power flow in AC networks.
- c) The maximum capacity in the forward direction and reverse direction (in MW) of Inter-Regional/ Intra-Regional HVDC Links has been submitted, out of which, the testing of HVDC Talcher – Kolar Bipole reverse capacity of 1900 MW under load has not been carried out, and for the HVDC Rihand – Dadri Bipole, testing for reverse capacity has been carried out only for 300 MW.
- d) The 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 that have been submitted. 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.
- e) By and large, the transmission system has been utilized in both directions with maximum power order, i.e. Raigarh to Pugalur and Pugalur to Raigarh, during high SR import and high SR export conditions, respectively. The correlation between SR power interchange with other regions (import is positive and export is negative) and HVDC Raigarh-Pugalur power order (towards SR is positive and towards WR is negative) for the period April 2021 to August 2023 is as follows:





Correlation between SR power interchange (MW) and HVDC Raigarh-Pugalur Power Flow (MW)

- f) During the export of power from SR, 400 kV Kolhapur (PG)-Kolhapur (MS) D/C (twin moose conductor prior to March 2023, now the lines are re-conducted to high capacity twin HTLS from August 2023) gets critically loaded and becomes N-1 non-compliant for most of the time. It was also observed that in some durations, even during net SR import, the loading of 400 kV Kolhapur (PG)-Kolhapur (MS) D/C remained high due to high Kudgi generation and low RE in the SR. Also, critical loading of Pune -GIS-Pune PG-Lonikhand-Karad-Kolhapur and associated networks is observed during some periods. The high loadings on the above sections of the Maharashtra transmission system are avoided to ensure the reliability of supply in the Mumbai Metropolitan system. The HVDC Raigarh-Pugalur power order was modulated in the South to the West direction in order to relieve the above constraints.
- g) There are diurnal variations of power flow on the net SR import and the West-South inter-regional corridor. There are times, especially during the low SR import period, when the HVDC Raigarh-Pugalur was operated from South to West at the minimum power order in order to prevent the frequent reversal of power flow on the HVDC Raigarh-Pugalur. The Petitioner, vide email dated

17.7.2022 and various subsequent communications requested to avoid the frequent reversal of power orders on the HVDC link. As stated, the power direction change involves a sequential set of operations of various highly sophisticated 400 kV AC Filter Elements and 800 kV DC switching elements as well as the most critical OLTC Device of the converter Transformers in both stations. Frequent direction changes in power direction may adversely affect the life of the equipment and even cause premature failures. In order to arrive at the quantum of SR import, the quantum of power on the WR-SR and ER-SR corridors is algebraically added. In the ER-SR corridor, HVDC Talcher-Kolar is generally reduced to 1150 MW. Any further reduction on the HVDC link becomes difficult in case there is a high generation at the Talcher generation complex. The lines emanating from the Talcher generation complex start getting overloaded when Talcher generation is available, and the HVDC power order is set at a lower value. A System Protection Scheme (SPS) to ensure n-1 reliability around the Talcher generation complex is active when the HVDC power order is above 1150 MW. Therefore, in some cases, the HVDC Raigarh-Pugalur is operated at a minimum power order from SR to WR, even when SR is importing from ER. Therefore, the HVDC Raigarh-Pugalur link was operated to ensure secure and reliable operation.

60. BRPL in its Written Submissions dated 10.10.2023 has submitted as follows:

- a) The instant HVDC system was made at the behest of Tamil Nadu on a compressed time schedule to meet the increasing demand in the Southern Region. Further, the instant HVDC system is being used by Tamil Nadu and other SR beneficiaries for the import and export of power.
- b) The Northern region in which the BRPL is functioning as a distribution licensee is not deriving any benefit from the transmission system, as the said system is purely constructed for the beneficiaries of the Southern and Western Regions. Hence, there is no purpose to consider the instant system a 'National Component'. The declaration of the instant asset of National Importance and inclusion of assets under the National Component of Sharing Regulation would increase the billing of BRPL by approximately 233%, and such a significant amount shall be recovered from the consumers of BRPL who are deriving no



benefit at all, which is against the interests of the consumers of the region who shall be subject to payment of transmission charges without deriving any benefit from the same, which is against the purpose of the 2003 Act.

61. WBSEDCL in its Written Submissions dated 10.10.2023 has submitted as follows:

- a) The transmission system was conceptualized and implemented to facilitate power flow between Chhattisgarh in WR and Kerala in SR. On account of the 'Bi-Directional Power Flow', the transmission system is beneficial only for WR and SR constituents. In no case do the beneficiaries of ER get any power through the transmission system, even in cases of reverse flow.
- b) Even though beneficiaries of ER will not get any power through the transmission system, since the system is covered under the 'National Component', by virtue of Regulation 5(3)(d) of the 2020 Sharing Regulations, the beneficiaries of ER will have to pay 30% of the yearly transmission charges.
- c) It is a settled position of law that the Commission is bound by the Regulations. It is, therefore, not open to the Commission to allow more than 30% of the Yearly Transmission Charges as a part of the 'National Component' in view of Regulation 5(3)(d) of the 2020 Sharing Regulations.
- d) There cannot be any justification for treating all HVDC Inter-Regional Links as National Components with 100% Transmission Charges to be shared by all the designated ISTS Customers merely on the basis of 'bi-directional Power Flow'. The consumers of the Regions that do not receive any power by virtue of such 'bi-directional Power Flow' cannot be burdened with such charges contrary to the Regulations.
- e) In line with the 'Tariff Policy' Transmission Charges of the HVDC System have to be shared among the constituents of the Drawee Region as they are planned and utilized by them. Regulation 5(3)(d) of the 2020 Sharing Regulations is in conformity with the Electricity Policy and Tariff Policy. Any direction for sharing transmission charges among all the constituents, irrespective of usage, will be arbitrary, irrational, and violative of the principles laid down in the National



Electricity Policy, 2005/ Tariff Policy, 2016, as well as contrary to the 2020 Sharing Regulations.

- f) Even by virtue of 30% of the Transmission Tariff of the transmission system being treated under the National Component and 70% under the Regional Component, the transmission charges will have to be borne by WBSEDCL/ West Bengal, even though WBSEDCL or consumers of West Bengal will not benefit in any manner.

62. MPPMCL in its Written Submissions dated 10.10.2023 has submitted as follows:

- a) Presently, it is observed that through the transmission system, a major quantum of energy (MWh) (99% to 87%) is currently flowing from WR to SR. Admittedly, energy/ power imported from WR to SR is Round the Clock (RTC) Power, whereas energy/ flowing being exported from SR to WR is Renewable Energy (RE) (1% to 13%), which is available only during part of the day.
- b) Therefore, in view of the present status of Power/ Energy Flow, the threshold of bi-directional power flow envisaged in the third Amendment to the 2020 Sharing Regulations is not achieved. Therefore, it would not be appropriate to include the transmission system in the National Component until the finalization of the draft third Amendment to the 2020 Sharing Regulations is notified, so that there will not be an unnecessary burden on other DICs and thereby on their end consumers.
- c) The subject HVDC transmission system was considered and commissioned, without getting regulatory approval under the 2010 Regulatory Approval Regulations.
- d) If this Commission deems it fit to entertain the prayers of SR constituents, the appropriate prudence check needs to be carried out while finalising the claim, which may be allowed only prospectively.

63. SEIL, in its Written Submissions dated 10.10.2023, has submitted as follows:

- a) This Commission has the power to re-evaluate an HVDC system based on the development and change in the load generation mix and consider the sharing of transmission charges under the National Component, based on the bidirectional flow of power.



- b) The regulations issued by statutory bodies, including this Commission, are issued in the exercise of their legislative power (given that they are in the nature of delegated legislation). Such regulations would be prospective in nature, subject to provisions in the parent statute that expressly give the power to pass regulations with retrospective effect. Unless a statute gives the power to make subordinate legislation with retrospective effect, sub-ordinate legislation can only have a prospective effect. The 2003 Act does not provide for this Commission to pass regulations with retrospective effect. Accordingly, regulations of this Commission notified under the 2003 Act cannot have retrospective effect. Therefore, the transmission charges to be levied for the transmission asset from 6.9.2022 (i.e., commercial operation date of the transmission asset) cannot be computed on the basis of the Draft Sharing Regulations (3rd Amendment) 2023, inasmuch as the said draft amendment will have prospective application only.
- c) The issue of considering the transmission asset under the National Component has been deliberated and agreed upon by the SR Constituents, the Petitioner, and CTUIL under various SRPC meetings. It is an admitted position of all stakeholders, including CTUIL, the Petitioner, and the MoP, that, given the current nature of the transmission asset, the transmission charges ought to be included under the 'National Component'.

64. UPPCL, in its Written Submissions dated 10.10.2023, has submitted as follows:

- a) In view of the large deficit and requirement of the transmission system to meet future demands in the SR, the transmission asset was planned to be constructed as a system-strengthening scheme. It was only later in view of the surplus scenario and optimistic renewable energy (RE) capacity addition projections that it was proposed to use the said transmission asset for the export of power as well (bi-directional). From the identification stage, the transmission asset had been agreed upon for a 6000 MW import of power from WR to SR. However, the transmission asset has been implemented by the Petitioner with the provision of a reverse flow of power from SR to WR up to 50% of the total capacity, i.e., 3000 MW, without any additional cost. Therefore, the transmission asset is likely to be utilized for both the import and export of power under various operating conditions.



- b) However, even if there is a bilateral flow of power through the transmission asset, in any event, no power or benefit will ever be reaped by the beneficiaries embedded in regions excluding WR and SR, specifically UPPCL. Therefore, it is UPPCL's stand that this Commission had rightly included the transmission asset under the SR component and not the NR component.
- c) In the event that, this Commission opines that the same is of strategic importance and shall be treated under the NC, then the beneficiaries embedded in regions other than WR and SR shall have to bear transmission charges of extraordinarily huge amounts which may run into crores per month, despite the fact that they are not and will not be getting any direct benefit from the said system. Such an uncalled-for liability will lead to an undue financial burden upon beneficiaries in regions other than WR and SR including UPPCL, ultimately impacting end consumers.
- d) The 2020 Sharing Regulations finalised after considering the suggestions and comments given by concerned stakeholders including TANGEDCO, consciously and rightly do not include the subject transmission asset in the NC.
- e) This Commission was of the view that even if there is bidirectional flow, it is happening between SR and WR only. Therefore, the transmission asset cannot be declared as a NC. Accordingly, the other three regions, i.e., Northern, Eastern and North-Eastern regions should not be burdened with the transmission charges of the transmission asset.
- f) The Commission is requested to finalize the proposed draft third amendment to 2020 Sharing Regulations with due consideration of the views of stakeholders, GCIL, CEA and CTUIL, prior to the issuance of the order in the present remand proceedings.
- g) In view of the order of the Commission in Petition No. 67/TT/2015 in the context of the Biswanath-Chariali Agra HVDC system, in the event that, the transmission asset is held to be part of NC, this Commission may direct the Petitioner to approach relevant authorities for financial assistance in order to reduce the



burden of the transmission charges on the beneficiaries and ultimately on the end consumers.

65. KSEBL, in its Written Submissions dated 10.10.2023, has submitted as follows:
- a) Pursuant to the judgment dated 18.7.2023 of APTEL in Appeal No. 433 / 2022 and followed by its order dated 31.7.2023 in Appeal No. 566 / 2023, the issue has been conclusively decided by APTEL holding that there would be no permissibility for this Commission to adopt an inconsistent approach in the present case of the transmission system when it has been treating other transmission assets such as the Dehgam-Mundra-Mohindergarh-Bhiwani link and the +/- 800 kV Biswanath Chariali-Agra HVDC Link – as “National Component” for the purposes of sharing transmission charges.
 - b) The principles adopted by this Commission in the case of the +/- 800kV Biswanath Chariali-Agra HVDC Link would also squarely become applicable in the facts of the present case, for declaring the transmission system be treated as a “National Component” for the purpose of sharing transmission charges.
 - c) All the Respondents were parties and had been duly served in the proceedings before the APTEL in Appeal No. 433 of 2022 wherein the judgment dated 18.7.2023 has been passed by the APTEL. All the said Respondents are bound by the said judgment of the APTEL, and there is no permissibility for them to raise any contentions contrary to the observations made in the judgment of APTEL.
66. TANGEDCO, in its Written Submissions dated 10.10.2023, reiterated its earlier submissions and mainly submitted as follows:
- a) There is no material evidence produced by the Central planning agency that there was surplus availability from various generating stations to a capacity of 6000 MW at Chhattisgarh. Further, it was not deliberated in any of the Standing Committee meetings that the SR Discoms had intended to avail power from the Chhattisgarh IPPs. Further, none of the SR Discoms had sought open access through the subject transmission system. In the absence of specific PPA tie-ups with the generators by the SR Discoms and the absence of LTA, the Central Planners should have brought on record the details of the load generation



balance of the SR Discoms and the essentiality of the subject HVDC system to meet the demand requirements of the Discoms in the projected planning time horizon.

- b) In the planning stage, though the HVDC system is capable of transferring power to its design capacity in both directions, the planners did not even reveal / discuss the transfer capacity in the reverse direction so that redundant transmission systems could have been avoided to meet the export requirements from SR to other regions. It was only at the insistence of TANGEDCO that the feasibility of power transfer from SR to WR through this corridor was studied and agreed upon.
- c) Hence, it can be inferred that in the process of planning the transmission system the Petitioner /CTUIL has not followed any of the mandates under the 2010 Regulatory Approval Regulations 2010 and the 2009 Connectivity Regulations.
- d) The concept of TSA was introduced in the 2009 Connectivity Regulations by the Commission for the purpose of long-term open access as per Regulation 27 of the 2009 Connectivity Regulations. The TSA under the 2010 and 2020 Sharing Regulations relates to the sharing of transmission charges for all ISTS schemes. Hence, TSA has nothing to do with the requirement for regulatory approval in respect of a system-strengthening scheme at the stage of planning and investment approval.
- e) The mandate to follow regulations is laid down in PTC India Ltd. Vs CERC and Ors. (2004) 10 SCC 603, which mandates that once there is a Regulation framed by the Commission, Central Transmission Licensee is bound to follow the same, and the Commission is bound to check that the Regulations are followed in letter and spirit.
- f) In these circumstances, the Petitioner is not entitled to a tariff in the absence of regulatory approval for a system strengthening scheme involving Rs. 22000 crore of public money.
- g) 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 Petition No.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.

- h) The data presented by GCIL is in direct contravention of the Commission's order dated 22.9.2023 in Petition No.11/SM/2023. As per the above data, when 6481 MW is the GNA outside the region for SR, even the existing NEW grid, SR ATC, is more than four times the approved GNA outside the Region for SR.
 - i) The additional lines of Warora-Warangal 765 kV D/C (4000MW), Raigarh-Pugalur –Trissur HVDC (6000 MW), Narendra-Pune (4000 MW) (Total capacity of 14000 MW) are an unwarranted burden on the consumers of the entire nation. There is no tie-up with any generator or beneficiaries in respect of the 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.
 - j) When the system was planned, the 2010 Sharing Regulations 2010 were amended to take care of the sharing of the charges of new HVDC systems, wherein the Commission was empowered to decide the methodology of sharing through an order. The transmission system was declared under commercial operation when the 2010 Sharing Regulations were in force. Hence, there can be no declaration of the transmission system as national asset under the 2010 Sharing Regulations through an order by the Commission, the same shall be adopted and put under National Component under the 2020 Sharing Regulations by implication.
67. The Petitioner in its Written Submissions dated 10.10.2023 has submitted as follows:
- a) The Supreme Court in the order dated 18.8.2023 in Civil Appeal No. 4959 of 2023 has not interfered with the judgment of APTEL dated 18.7.2023 but has directed this Commission to decide the remand by 31.10.2023. Therefore, instead of expanding the scope of remand by raising unnecessary issues, it is



requested to confine the proceedings to the aspect of declaration of the assets in question as assets of national and strategic importance and give an appropriate methodology for recovery of transmission charges.

- b) Certain Respondents have also raised the issue of non-obtaining regulatory approval under of the 2010 Regulatory Approval Regulations. Regulation 3(2) makes an exception for obtaining any regulatory approval, for any ISTS Scheme for which the beneficiaries have signed a BPTA providing for sharing the transmission charges. In the present case, SR beneficiaries have signed BPTA. After the 2010 Sharing Regulations were notified, the BPTA was replaced by a TSA which was also signed by all the SR beneficiaries.
- c) The other crucial factor is that the scheme was discussed and agreed to in various meetings of the Standing Committee on Power System Planning of SR and WR as well as in SRPC and WRPC. Apart from the meetings, when the system was being planned, the Chief Minister of the State of Tamil Nadu presented a memorandum dated 10.6.2014 to the Prime Minister seeking urgent implementation of the Raigarh-Pugalur HVDC Link.
- d) The system strengthening / augmentation schemes have been implemented both under Sections 62 & 63 route under the 2003 Act, after approval and concurrence in various planning forums, viz., SCMs and RPCs, and requisite approval from the Government of India. In the case of system strengthening schemes implemented under Section 63 (TBCB route), this Commission has granted a licence, but no regulatory approval was sought or the same was ever contested by any of the DICs.
- e) Therefore, considering the specific exception provided in Regulation 3(2) of the 2010 Regulatory Approval Regulations, there is no requirement for obtaining any regulatory approval since all beneficiaries have agreed to the subject System Strengthening Scheme before various forums and have also signed both BPTA and TSA respectively.
- f) TANGEDCO has taken the extreme and illogical position that the HVDC corridor is akin to an unauthorized building and ought to be demolished. Such



irresponsible submissions when the HVDC Corridor has been implemented by POWERGRID in a compressed time-frame to meet the urgent transmission infrastructure needs of the SR beneficiaries at a cost of around Rs. 22,000/- crore and the same is being utilized by the SR beneficiaries to continuously draw power over the last several years.

- g) The representatives of all SR beneficiaries especially TANGEDCO insisted that this corridor should be built in a compressed time frame and were consulted by the Petitioner at each stage including at the time of the declaration of commercial operation of every asset. Despite the severe ROW constraints and other challenges encountered by the Petitioner, the corridor has been executed successfully and is being gainfully utilised by the beneficiaries.
- h) The SR beneficiaries were insisting that the HVDC Corridor be implemented, participated in the meetings approving the corridor, attended the meetings for declaration of COD of the individual assets held by CEA, congratulated the Petitioner on the successful completion of the project, participated in the original tariff proceedings for determination of tariff without raising the issue of regulatory approval and did not press this issue in Appeal No. 433 of 2022. The SR beneficiaries also succeeded in the appeal to get a remand for the declaration of the assets to be of national and strategic importance, but it cannot be that they realized in the remand proceedings that there is no regulatory approval at all. The SR Beneficiaries have raised such contentions qua HVDC assets under Scheme 1 and 3 of the present Raiharh-Pugalur Line, and no such challenge has been made with respect to Scheme – 2 of the Project which is the AC portion of the RPT corridor. This shows that the contention of regulatory approval is being raised only to avoid payment of transmission charges which is against the letter and spirit of the Act.

68. The CEA, vide letter dated 20.10.2023, has submitted as follows:

- a) The Raigarh- Pugalur-Trichur HVDC transmission system was planned for the import of power into the Southern Region to meet the increasing electricity demand in the Southern Region. During the planning of this system, Southern Region constituents were in full agreement with the need for this HVDC transmission system for the Southern Region.



b) The proposal of Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) Transmission System was agreed in 37th Meeting of the Standing Committee on Power System Planning in Southern Region held on 31st July 2014 and 37th Meeting of the Standing Committee on Power System Planning in Western Region held on 05.09.2014 and subsequently in the Joint Standing Committee meeting of SR & WR constituents held on 20.04.2015 at New Delhi, considering the following:

- In 2014, there was a power deficit in Southern Region of the order of 3400 MW due to delay / deferment of anticipated generation projects, for example, Krishnapattam UMPP (4000 MW), Cheyyur UMPP (4000 MW), Udangudi TPS (2120-MW), IPP projects in Nagapatanam / Cuddalore area (3000 to 4000 MW), Kudankulam APP (2000 MW), Kalpakkam PFPR (500 MW), East Cost project in Srikakulam (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.
- The generation projects which were in the pipeline or under the planning stage were expected to be commissioned by 2018-19, generation addition capacity in the range of 22,000 MW (pessimistic scenario) to 30,000 MW was anticipated in the Southern Region. With this, the Southern Region was expected to be in a deficit situation in the range of 10,000 MW to 16,000 MW by the end of 2018-19. The existing / planned system could facilitate the import of about 9,000-10,000 MW into the Southern Region. To achieve the import objective of 16,000 MW, the Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) Transmission System was proposed as an additional inter-regional transmission link from WR to SR.

c) The capacity of the Raigarh-Pugalur HVDC link in the forward direction (Raigarh, Chattisgarh –Pugalur, Tamil Nadu) is 6000 MW, and the capacity in the reverse direction (Pugalur, Tamil Nadu- Raigarh, Chhattisgarh) is 3000 MW.

d) From the year 2018-19, there have been significant changes in the pattern of NEW-SR corridor power flow with high RE power integration in the SR region and high export of power from SR during high RE generation periods. The maximum net SR export was observed to be around 3600 MW in 2018-19



and this figure has increased to 7900 MW in 2022-23. It may be noted that the installed capacity of Renewable Energy sources in the Southern Region has increased from 38,620 MW in March 2019 to 46,908 MW in March 2022.

- e) From the power flow pattern of Raigarh-Pugalur (± 800 kV, 6000 MW HVDC), it is observed that there is continuous power flow from the Western region to the Southern Region (forward direction) in the range of 4000 MW-6000 MW which has reached up to 6600 MW in April 2023, while power is also flowing from the Southern Region to the Western Region up to its full capacity of 3000 MW.
- f) As per CTUIL, around 2,350 MW of LTA is in operation and LTA of around 5,800 MW was granted to RE developers in SR considering full capacity (3,000 MW) of Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) Transmission System. Without the Raigarh - Pugalur (± 800 kV, 6000 MW HVDC) Transmission System, an additional inter-regional transmission system would need to be constructed to evacuate the RE power from SR to other regions.
- g) As per the CEA report on "Transmission System for Integration of over 500 GW RE capacity by 2030" about 104.5 GW of RE capacity shall be connected to the ISTS network in Southern Region by 2030. The Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) will be utilized at its full extent (3000 MW) for the export of RE power from SR to WR.
- h) As per Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, 30% of Yearly Transmission Charges of the HVDC transmission system would get included in the National Component - HVDC. Thus, the cost to be borne by SR constituents for the Raigarh- Pugalur HVDC system would be only 70 %.
- i) As per Draft Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) (Third Amendment) Regulations, 2023, there is power flow in the reverse direction in some HVDCs, which may vary based on the nature of use, it is desirable that the sharing of the



transmission charges under the National Component should be linked to the nature and quantum of power flow in the reverse direction. Accordingly, 30-50 % of the Yearly Transmission Charge of the Raigarh-Pugalur HVDC line would be considered in the National Component depending on the power flow in the reverse direction.

j) Recommendations:

- a. For considering the transmission charge of the Raigarh-Pugalur HVDC link in the National Component, the following criteria have been adopted:
 - The Raigarh (WR) -Pugalur (SR) HVDC link is an inter-regional link serving both the regions, and
 - The Raigarh (WR) -Pugalur (SR) HVDC link has substantial power flow in the reverse direction (from SR to WR)
- b. As per data provided by Grid-India for the year 2022-23, 3000 MW power flow has occurred on the Raigarh-Pugalur HVDC link from Pugalur (Southern Region) to Raigarh (Western Region) in some of the months. At present, the capacity of the Raigarh-Pugalur HVDC link in the reverse direction (Pugalur-Raigarh) is 3,000 MW. The capacity of the Raigarh – Pugalur HVDC link in the forward direction (WR – SR) is 6,000 MW.
- c. Hence, 50% of the Yearly Transmission charge of the Raigarh-Pugalur HVDC link may be considered in the National Component. Also, with a further increase in the capacity of power flow beyond 3,000 MW in the reverse direction (SR-WR), the percentage considered under the National component may be reviewed depending upon the capacity increase. If the capacity in the reverse direction is increased to 6,000 MW, then the national component may be considered as 100% from the date of commissioning of such capacity.



Analysis and Decision

69. We have considered the submissions of the Petitioner, Respondents, APTEL's remand judgement and the facts on record. Accordingly, the following issues arise for our consideration:

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?

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

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

Issue No 4: What is the status of funding for the instant assets from PSDF/ NCEF?

Each of the issues is dealt with in subsequent paragraphs.

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

70. The Southern Region beneficiaries, such as TANGEDCO, Telangana Discoms, Karnataka Discoms, AP Discoms, and MESCOM have submitted that the tariff petition of the Petitioner should have provided the details of regulatory approval obtained from the Commission as mandated under the 2010 Regulatory Approval Regulations. They have submitted that the mandate to follow the regulations is laid down in PTC India Ltd Vs CERC and Ors (2004) 10 SCC 603, which holds that once a Regulation is framed by the Commission, the CTUIL is bound to follow the same and the Commission is bound to check that the Regulations are followed in letter and spirit. In these circumstances, the fixation of tariffs without any regulatory approval would be unlawful. In the absence of regulatory approval, considering the national importance of the asset, the Petitioner is left with only one option to avail a 100% grant from the Government of India under PSDF/NCEF or from any other fund for the subject transmission system, as this subject asset is not eligible for the tariff.



71. The beneficiaries of other regions, such as MPPMCL and MSEDCL have also pointed out that the subject HVDC transmission system was considered and executed, without getting regulatory approval under the 2010 Regulatory Approval Regulations. Such practices set an unhealthy example of bypassing regulatory approvals. Therefore, considering the huge investment cost, the charges to be paid by the beneficiaries are to be determined only after a prudence check.
72. The Petitioner in its Rejoinder submitted that, in the present case, the SR beneficiaries have signed the BPTA with CTUIL and later the TSA dated 5.8.2011 in terms of the 2010 Sharing Regulations. In the present case, as there was a BPTA and later the TSA, regulatory approval was not required. The said TSA specifically provides that the new elements that are identified by CEA and CTUIL will be part of the model TSA, and the sharing of transmission charges shall be in accordance with the applicable Sharing Regulations. The present transmission scheme was approved after deliberations and the agreement reached in various meetings detailed herein before in the Southern/Western Region Power Committee and the Standing Committee Meetings, wherein the SR beneficiaries were part of and actively participated in the meetings.
73. The Petitioner has also submitted that the Chief Minister of Tamil Nadu presented a Memorandum dated 10.6.2014 to the Prime Minister for urgent implementation of the present transmission scheme so as to cater to the power requirements of the state. The Petitioner has strongly refuted TANGEDCO's submission, comparing the instant transmission asset to an unauthorised building stating that TANGEDCO has taken the extreme and illogical position that the HVDC corridor is akin to the unauthorized building and ought to be demolished. The Petitioner has further submitted that the HVDC Corridor has been implemented by the Petitioner in a compressed time frame to meet the urgent transmission infrastructure needs of the SR beneficiaries at a cost of around Rs. 22,000 crore, and the same is being utilized by the SR beneficiaries to continuously draw power over the last several years.



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 CTUIL, 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 – Thiruvalem 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 SCPS.”

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)]

<i>Transmission Element</i>	<i>Imple - menting</i>	<i>Line length</i>	<i>COD</i>	<i>Constraints/ Remarks</i>
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	Agency	(ckm)/ MVA Capacity	Sch.	Ant / Act	
WR-SR HVDC Bipole Link [Raigarh (Chhatisgarh) - Pugalur (Tamil Nadu)]	PGCIL				<p>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 requirement of power, the Committee suggested that studies for 6000 MW capacity and additional strengthening be carried out and put up for discussion in the next Standing Committee (37th) meeting.</p> <p>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.</p> <p>It was decided that the same would be explored and finalized in the next meeting of SCPSPSR.</p>
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			
Raigarh (HVDC Stn) - Pugalur (HVDC Stn) 6000 MW, +/- 800 kV HVDC bipole.					
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 80 MVAR 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					
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 letter issued by Petitioner, which is quoted as follows:



पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)
2022
ANU-2

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, 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-

From the COD declaration letter 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 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:

“4. 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.

5. 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.*
6. 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.
7. Chief Engineer (PSPA-I), CEA, requested Southern Region constituents to express their views/observations on the part commissioning of the transmission system.
8. 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.
9. 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.
10. 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.

....

17. 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.
18. 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.”*



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 TSTRANSCO welcomed part commissioning of the asset.

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.

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

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 earlier 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/ Alipurwar 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 Siliguri 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 mean time, 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 Chariali-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 Charaiiali 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 Nagapatanam/ Cuddalore area (3000 to 4000 MW), Kundankulam APP (2000 MW), Kalpakkam PFPR (500 MW), East coast project in Srikakulam (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-Edamonn-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 Yermarus 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 – Thiruvalem 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 form

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 Scenario No. Corridor	Aug'27 (Monsoon)			Jun'27 (Summer)			Feb'28 (Winter)		
	1 Solar Max	2 Peak Load	3 Off Peak	4 Solar Max	5 Peak Load	6 Off Peak	7 Solar Max	8 Peak Load	9 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. "



99. TANGEDCO has submitted that the Raigarh-Pugalur -Trissur HVDC system, along with the associated AC system, has become a vital part of the national grid and the entire nation will benefit; hence, it has been requested that the transmission asset be declared as of strategic and national importance.
100. MESCOM has submitted that the Raigarh- Pugalur-Trissur HVDC transmission system is one of the important elements of the national grid, which provides flexibility, stability, and renewable energy integration.
101. GRIDCO has submitted that the orders of the Commission treating the HVDC BNC-Agra line as of national and strategic importance and directing the tariff of the same to be shared by beneficiaries of all the Regions were given in different facts and circumstances and are under appeal before the Tribunal in Appeal No. 349 of 2017, Appeal No. 377 of 2018, and Appeal No. 33 of 2021.
102. CEA has submitted that the Raigarh- Pugalur-Trichur HVDC transmission system was planned for the import of power into the SR to meet the increasing electricity demand of the SR. During the planning of this system, Southern Region constituents were in full agreement with the need for this HVDC transmission system for SR. From the year 2018-19, there have been significant changes in the pattern of NEW-SR corridor power flow, with high RE power integration in SR and high exports of power from SR during high RE generation periods. The maximum net SR export was observed to be around 3600 MW in 2018-19 and this figure has increased to 7900 MW in 2022-23. It may be noted that the installed capacity of Renewable Energy sources in the SR has increased from 38,620 MW in March 2019 to 46,908 MW in March 2022. As per the CEA report on “Transmission System for Integration of over 500 GW RE capacity by 2030” about 104.5 GW of RE capacity shall be connected to the ISTS network in SR by 2030. The Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) will be utilized to its full extent (3000 MW) for the export of RE power from SR to WR. At present, the capacity of the Raigarh-Pugalur HVDC link in the reverse direction (Pugalur-Raigarh) is 3,000 MW. The capacity of the said HVDC link in the forward direction (WR – SR) is 6,000 MW. Hence, 50% of the Yearly Transmission Charges may be considered in the



National Component. Also, with a further increase in the capacity of power flow beyond 3,000 MW in the reverse direction (SR-WR), the percentage considered under the National Component may be reviewed depending upon the capacity increase. If the capacity in the reverse direction is increased to 6,000 MW, then the National Component may be considered as 100% from the date of commissioning of such capacity.

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.

SI 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.

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

110. MESCOM has submitted that the Bakshi Committee Report has recommended that the instant transmission system be treated as a National Asset so that charges can be shared through the National pool. Further, AP Discoms have made similar submissions that the Bakshi Committee suggested sharing transmission charges for the Subject HVDC System on an all-India basis.

111. We have considered the submissions of MESCOM and AP Discoms. There are some factual inaccuracies in the submissions noted above regarding the recommendations of the Bakshi Committee and accordingly, the correct factual position is recorded herewith. A committee was formed under the then Member (Technical), Shri A.S. Bakshi, in 2016 with members from CTU, POSOCO (now Grid-India/ GCIL), and CEA. The Committee submitted its report to the Commission on 13.3.2019 and the said report forms part of the Explanatory Memorandum to the Draft CERC (Sharing of inter-State transmission charges and losses) Regulations 2019 as Annexure-I and is available on the CERC website



(https://cercind.gov.in/2019/draft_reg/Annexure%20I_3Dec.pdf). The analysis and recommendations of the Committee start at page 204 of the report under Clause 4.14.7. In the said report, the CTUIL and GCIL had opined that all HVDCs should be included on an all-India basis, whereas the CEA suggested loading 100% charges on the region for which it has been created. After considering the suggestions of all the members, the Committee finally recommended continuing with the method of sharing transmission charges of the HVDC as per the third amendment to the 2010 Sharing Regulations, i.e., 10% under Reliability and 90% on region. The relevant extract from the Bakshi Committee recommendations is as below:

“4.4.17 Analysis and Recommendations of the taskforce

(a) Vide the third amendment it was concluded that since it is not possible to identify utilisation of HVDC on the basis of marginal participation methodology, it should be borne by beneficiaries/ DICs for whom it has been created i.e causer pays. HVDCs which are back to back systems and are used for control purpose are being put under reliability component since control function can be seen as benefiting everybody in the grid. Further 10% component of other HVDCs created for specific regions have also been considered under reliability based on POSOCO’s suggestions that these HVDCs are also used for control. However the objective quantification of how much % such HVDCs are used for control have not been provided by POSOCO or CTU. Considering that the entire HVDCs such as Talcher-Kolar, Rihand-Dadri, Bali-Bhiwadi etc are used for control is not acceptable. These systems are largely built for evacuation of power from one region to another region. Biswanath chariali-Agra has been declared as National asset by Gol and considering its peculiarities, the sharing of transmission charges for the same was done across India.

(b) Internationally it is observed that HVDC systems are paid for by the Areas which draw power through such HVDCs. It is possible because HVDCs have been set up a radial systems in these Countries. India has a unique system where HVDC and AC system is meshed within each other. Hence it is not possible to clearly identify the utilisation of such HVDC on scientific basis and hence causer pays principle is being adopted to share its charges. The usage of HVDC charges is based on the power order decided by the system operator based on various operational factors. Hence cost allocation of HVDC system cannot be based on Load flow. HVDC is planned predominately to carry Long term power based on the system conditions. The importance of HVDC is predominately to carry Long term demand rather than meeting the peak demand of a state. Hence cost of HVDC is based on the LTA+MTOA of the region for which it is meant.

(c) Keeping in view that HVDC are largely set up for evacuation, it is recommended that existing provisions for sharing of HVDC charges on causer pays’ principle should continue under both modified PoC method as well as Uniform charges method. HVDC back to back systems should be considered under reliability component in Modified PoC and under YTC to be shared uniformly with all entities in Uniform charges method.



(d) Currently 10% component of HVDC except back to back is covered as reliability component. In proposed modified PoC mechanism, recovery of transmission charges is done in 3 categories Usage, Reliability and Residual for AC system. Since usage for HVDC and reliability cannot be quantified through load flow and considering meshed nature of HVDC and AC system with each other where flow in HVDC is controlled as per flow in AC system, it is proposed to consider All India reliability% calculated for AC network to be same as for HVDC except Back to back and National asset. MTC corresponding to % of reliability to be shared in ratio of non coincidental peak.

(e) HVDC back to back systems should be considered under reliability component in Modified PoC and under YTC to be shared uniformly with all entities in Uniform charges method. HVDC declared national assets to be shared as per CERC orders.

(f) With regards to HVDC charges for MTOA customers, it is clarified that HVDC charges are shared by MTOA customers in the same ratio as LTA customers. Further we agree that HVDC charges should also be paid by STOA customers till mechanism of GNA comes into place where no separate charges for STOA are envisaged.

(g) During meeting of taskforce, representative of POSOCO had suggested that it may happen that HVDC created for specific region is used for transfer of power in reverse direction with upcoming renewables for eg. Talcher-Kolar or Raigarh Pugalur. In such circumstances, the methodology of HVDC sharing may be reviewed.”

As per the above, the Bakshi Committee recommended HVDCs be shared in the ratio of 90:10, with 90% to be paid by the region for which it has been planned, and there was no recommendation that the instant transmission asset be declared a national asset or be shared on an all India basis, as noted by some of the respondents. It stated that *“Keeping in view that HVDC are largely set up for evacuation, it is recommended that existing provisions for sharing of HVDC charges on causer pays’ principle should continue under both modified PoC method as well as Uniform charges method”*. The Bakshi Committee further recommended that the methodology of 90:10 may be reviewed if HVDC created for a specific region is used for the transfer of power in the reverse direction with upcoming renewables.

112. Subsequently, the Commission formed another Committee under Member (Technical), Shri I.S Jha, in 2019 to formulate the draft Sharing Regulations based on the recommendations of the Bakshi Committee. The Jha Committee suggested that 30% of HVDC charges be kept under the National Component and 70% of HVDC charges be shared by the region for which it was created.



113. The Draft Sharing Regulations were proposed based on the inputs of the Committees in 2019 and were finalised as the 2020 Sharing Regulations after considering the comments of the stakeholders.

114. The instant transmission system achieved COD on 6.9.2020. The Commission, vide order dated 29.9.2022 in Petition No. 685/TT/2020 observed, with respect to the sharing of transmission charges of the asset from the date of COD till 31.3.2024 as below:

“133. The COD of the transmission asset is 6.9.2020. The payment of transmission charges for the period from 6.9.2020 to 31.10.2020 shall be as per the 2010 Sharing Regulations and transmission charges w.e.f. 1.11.2020 shall be as per Regulation 11(4) of the 2010 Sharing Regulations, which provides as follows;

Regulation 11(4) of the 2010 Sharing Regulations provides as under:

“(4) The first part of the bill shall recover charges for use of the transmission assets of the ISTS Licensees based on the Point of Connection methodology. This part of the bill shall be computed in three sub-parts as under:

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]”

134. 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 ± 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) and Pugalur (HVDC station) shall be shared as per Regulation 11(4)(3)(i) of the 2010 Sharing Regulations up to 31.10.2020 and it would come into effect from the date of COD of the transmission asset.

135. With effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and sharing of transmission charges is governed by the provisions of the 2020 Sharing



Regulations. 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) -----

-----" 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/ Alipurdwar 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 -----

(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."

136. In view of the above, as per Regulation 5(3)(d) of the 2020 Sharing Regulations, 30% of the Yearly Transmission Charges (YTC) with effect from 1.11.2020 shall be part of National Component and 70% of Yearly transmission charges for Raigarh-Pugular-Thrissur system is under Regional Component.

"

115. The APTEL, vide judgement dated 18.7.2023, had remanded the matter back to the Commission for fresh consideration with due consultation of CEA, CTU, and POSOCO (GCIL) and considering the MoP's letter dated 30.05.2022 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.

.....

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.”

Accordingly, CEA, CTUIL, and GCIL were impleaded in the remand proceedings, along with all India beneficiaries. The suggestions of the MOP letter dated 30.5.2022, CEA, CTUIL, and GCIL are summarised in the subsequent paragraphs.

116. The relevant extract of the MoP's letter dated 30.5.2022 is as follows: -

“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.”

117. As per above, the MoP, vide letter dated 30.5.2022, requested this Commission to consider transmission charges for all HVDC inter-regional links under the National Component if there is a certain quantum of bi-directional power flow through the concerned HVDC inter-regional link, and such a quantum of bi-directional power flow may be decided by the Commission in consultation with stakeholders, including GCIL, CEA, and CTUIL.

118. The consideration of the MOP's letter necessitated an amendment to the 2020 Sharing regulations, for which the Commission had to undergo a process of public



consultation and hearing before notifying a regulation. Accordingly, 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 amendment proposed the sharing of transmission charges for all inter-regional HVDC Transmission Systems under the 'National Component' based on the bi-directional flow of power in the HVDC Transmission Systems. Comments were invited until 12.7.2023, and this was in process prior to the APTEL Judgement dated 18.7.2023.

119. CEA vide letter dated 20.10.2023 has submitted as follows:

“

a) The Raigarh- Pugalur-Trichur HVDC transmission system was planned for the import of power into the Southern Region to meet the increasing electricity demand in the Southern Region. During the planning of this system, Southern Region constituents were in full agreement with the need for this HVDC transmission system for the Southern Region.

...

b) From the year 2018-19, there have been significant changes in the pattern of NEW -SRcorridor power flow, with high RE power integration in southern region and high exports of power from SR during high RE generation periods. The maximum net SR export was observed to be around 3600 MW in 2018-19 and this figure has increased to 7900 MW in 2022-23. It may be noted that the installed capacity of Renewable Energy sources in the Southern Region has increased from 38,620 MW in March 2019 to 46,908 MW in March 2022.

c) From the power flow pattern of Raigarh-Pugalur (± 800 kV, 6000 MW HVDC), it is observed that there is continuous power flow from the Western region to the Southern Region (forward direction) in the range of 4000 MW-6000 MW which has reached up to 6600 MW in April 2023, while power is also flowing from the Southern Region to the Western Region up to its full capacity of 3000 MW.

d) As per CTUIL, around 2,350 MW of LTA is in operation, and LTA of around 5,800 MW was granted to RE developers in SR considering the full capacity



(3,000 MW) of the Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) Transmission System. Without the Raigarh - Pugalur (± 800 kV, 6000 MW HVDC) Transmission System, additional inter-regional transmission systems would need to be constructed to evacuate the RE power from SR to other regions.

- e) As per the CEA report on “Transmission System for Integration of over 500 GW RE capacity by 2030” about 104.5 GW of RE capacity shall be connected to the ISTS network in the Southern Region by 2030. The Raigarh-Pugalur (± 800 kV, 6000 MW HVDC) will be utilized to its full extent (3000 MW) for the export of RE power from SR to WR.
- f) For considering the transmission charge of the Raigarh-Pugalur HVDC link in the National Component, the following criteria have been adopted:
- The Raigarh (WR) -Pugalur (SR) HVDC link is an inter-regional link serving both the regions, and
 - The Raigarh (WR) -Pugalur (SR) HVDC link has substantial power flow in the reverse direction (from SR to WR)
- a. As per data provided by Grid-India for the year 2022-23, 3000 MW power flow has occurred on the Raigarh-Pugalur HVDC link from Pugalur (Southern Region) to Raigarh (Western Region) in some of the months. At present, the capacity of Raigarh-Pugalur HVDC link in the reverse direction (Pugalur-Raigarh) is 3,000 MW. Capacity of the Raigarh – Pugalur HVDC link in forward direction (WR – SR) is 6,000 MW.
- b. Hence, 50% of the Yearly Transmission charge of the Raigarh-Pugalur HVDC link may be considered in the National Component. Also, with further increase in the capacity of power flow beyond 3,000 MW in the reverse direction (SR-WR), the percentage considered under the National component may be reviewed depending upon the capacity increase. If the capacity in reverse direction is increased to 6,000 MW, then the national component may be considered as 100 % from the date of commissioning of such capacity.”

120. The CTUIL has submitted that the said HVDC Transmission asset was planned to import power from the WR to the SR, and the 6000 MW Raigarh-Pugalur HVDC system was planned to facilitate direct interconnection between pit head generating stations in Chhattisgarh and load centres in the SR. It was only later (in



year 2019) that, in view of the surplus scenario and optimistic RE capacity addition projections, it was proposed to use the said HVDC transmission system for the export of power from the Southern Region and make it bi-directional. Further, during the joint study meeting held on 30th June – 2nd July 2022 at SRPC, Bengaluru, SRLDC opined that options may also be explored for further enhancing the capacity of reverse power flow to 6000 MW on the Raigarh-Pugalur HVDC system. CTUIL has submitted that as the HVDC System is being utilized in both directions (import – 6000 MW & Export – 3000 MW) to its full quantum, CTUIL is of the opinion that the transmission asset may be considered a full 100% National Component under the 2020 CERC Sharing Regulations.

121. GCIL has submitted that the growing penetration of variable/intermittent Renewable Energy (RE) generation, changing load profiles, and regional diversity have resulted in large variations in the power flow on the inter-regional corridors. The HVDC Raigarh – Pugalur is operated at its maximum capacity, i.e. 6000 MW in the WR to SR direction during high SR import periods and 3000 MW in the SR to WR direction during high export periods. In F.Y. 2023 – 24 (till 10th September 2023), the HVDC Raigarh – Pugalur has mainly been utilized in the forward direction, i.e. from WR to SR, to facilitate the import of power by the SR. During the year 2022-23 flow in the WR to SR direction was for 65% of the time and in the SR to WR direction for 35% of the time. During the year 2023-24 (April – 2023 to 10 Sep 2023), flow in the WR to SR direction was for 98.5% of the time and in the SR to WR direction for 1.56% of the time. Considering the changing patterns of generation and demand, particularly in RE rich regions, all HVDC links should have adequate capability to operate in both directions.

122. BSPHCL has submitted that the views of statutory authorities, i.e., CEA, CTUIL, and GCIL, need to be taken into consideration while coming to any conclusion regarding the status of the subject HVDC Transmission system. If this system is treated as a National Component, then the ER constituents shall have to bear transmission charges of extraordinarily huge amounts without even getting any direct benefit from the said system. Out of five regions, three are not at all the



beneficiaries of this HVDC system, as it was purely constructed for the beneficiaries of the two regions, namely the SR and WR constituents.

123. MPPMCL has submitted that the subject transmission scheme was conceived for the evacuation of power from SR to WR. Further, the power that is transmitted from WR to SR is conventional power and is available throughout the year. From SR to WR, mainly renewable power is transmitted, which is fluctuating in nature and is not available throughout the year.
124. SR beneficiaries and SEIL have submitted that the subject transmission asset is used to mainly evacuate RE power from the SR to other regions. The transmission asset, as proposed in 2014, subsequently underwent a change and was developed as a “System Strengthening Scheme” for the national grid to boost usage and transmission of renewable energy across the country. It is, therefore, for the benefit of the entire country and not for the SR alone.
125. CSPDCL has submitted that for the subject HVDC Transmission system, only 30% of Transmission charges can be made as part of the National Component, and any deviation from the aforesaid parameter would tantamount to amending the 2020 Sharing Regulations, which is impermissible in the present proceedings. APTEL has not made any observation that this Commission has to amend the 2020 Sharing Regulations. Hence, the remand, vide order dated 18.07.2023 in Appeal No. 433 of 2022, was an open remand. Similar submissions have been made by GRIDCO and WBSEDCL, who have referred to PTC India Limited (2010) 4 SCC 603, Order of the Hon’ble Supreme Court, wherein it was held that if there is a Regulation, then whatever Charges the Commission determines have to be in conformity with the Regulations.
126. MSEDCL has submitted that the subject transmission line behaves in import mode roughly for 6 months. In such a scenario, it would not be appropriate to include the transmission asset in the National Component until the finalization of the draft third amendment to the 2020 Sharing Regulations.



127. GRIDCO, BSPHCL, and WBSEDCL have submitted that, on account of 'Bi-Directional Power Flow', the said HVDC Transmission System is beneficial only for WR and SR Constituents, and the Northern, Eastern, and North-eastern regions cannot be burdened with high transmission charges by the inclusion of the HVDC system in question under the national component. UPPCL has submitted that even if there is a bilateral flow of power in the said Transmission Asset, in any event, no power or benefit will ever be reaped by the beneficiaries embedded in regions excluding WR and SR, specifically UPPCL.
128. MPPMCL has also submitted that currently through the instant HVDC Transmission System, the power being transmitted from WR to SR is Round the Clock (RTC) power, whereas the power being exported from SR to WR is Renewable Energy (RE), which is fluctuating/ intermittent in nature and is not available throughout the day/ year. It would not be appropriate to include the said HVDC Transmission System in the National Component until the finalization of the Draft third Amendment to the 2020 Sharing Regulations is notified, so that there will not be an unnecessary burden on other DICs and thereby on their end consumers.
129. BRPL has submitted that the instant HVDC system was made at the behest of Tamil Nadu in a compressed time schedule to meet the increasing demand in the SR. The inclusion of assets under the National Component of the 2020 Sharing Regulations would cause the billing of BRPL to go up by approximately 233%, and such a significant amount would have to be recovered from the consumers of BRPL who are deriving no benefit at all.
130. We have considered the submissions of the Petitioner, the Respondents, the CEA, the CTUIL, the GCIL, and the facts on record. We observe that APTEL vide judgement dated 18.7.2023 has directed that as the subject HVDC transmission link is likely to be utilized for both the import and export of power under various operating conditions, it may be considered 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 aforementioned MoP's letter dated 30.5.2022.

131. We observe that 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.

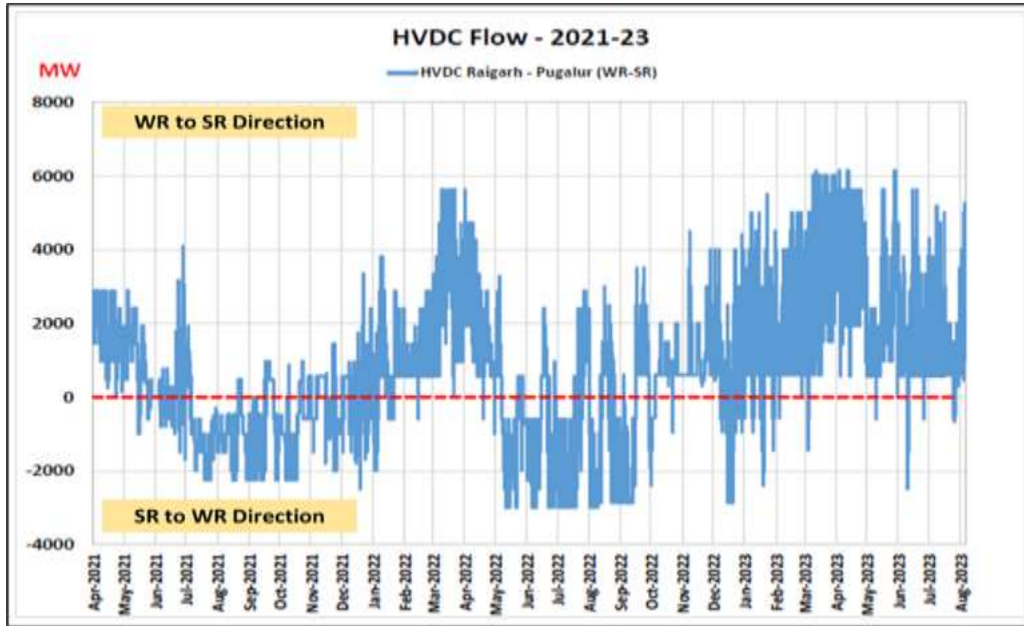
132. We have gone through the power flow data through the instant transmission asset since its COD, which was submitted by the petitioner vide affidavit dated 28.2.2022. We observe from the submitted data that in many months there was no reverse flow and, in some months, reverse flow was for a limited period. We also take note of CTUIL's submissions in the SRPC meeting held in December 2020, where it was pointed out that there was a constraint on ICTs at Raigarh that needed to be addressed for reverse flow. As per the data furnished by the GCIL, it is observed that a reverse flow of quantum 3000 MW was established for the first time in May 2022. We further note the following data for the instant transmission asset:

A. the energy transmitted through the Raigarh-Pugalur in the forward direction (West to South) and in the backward direction (South to West) in million units (MUs) over the last two financial years is as follows:

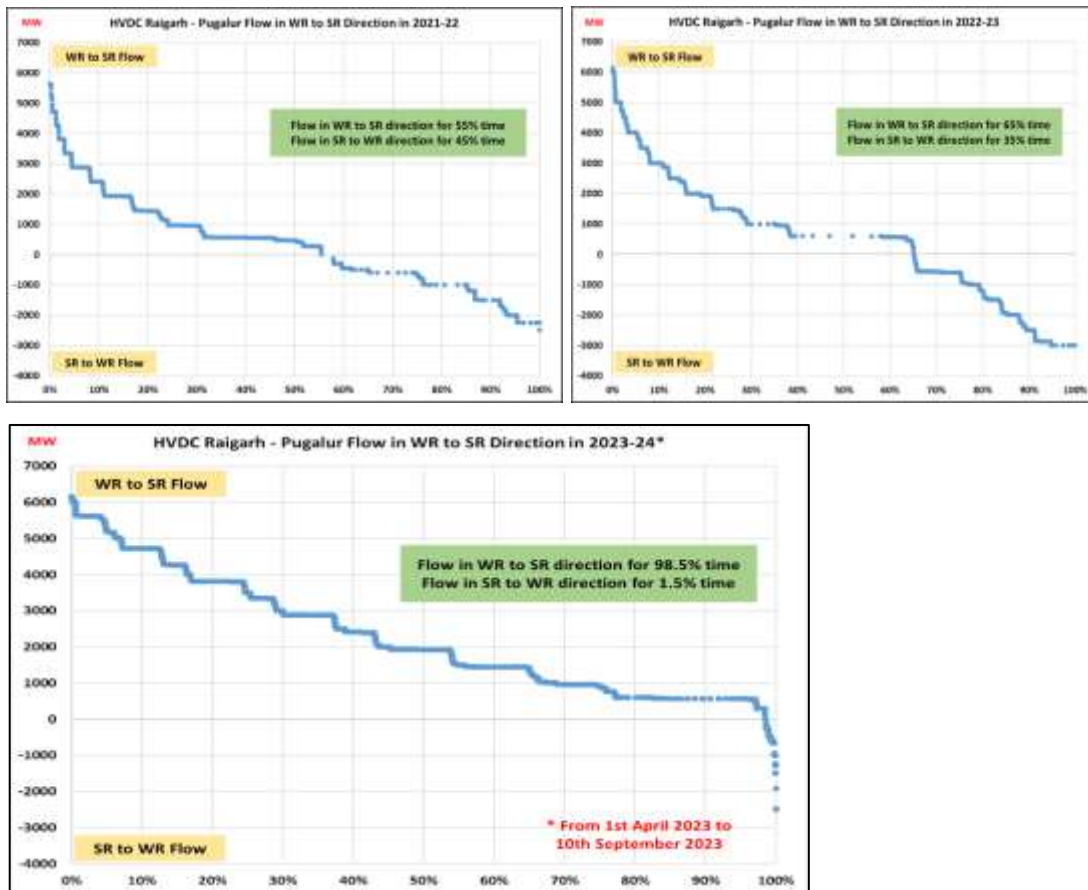
S. N	Financial Year	Energy transmitted through HVDC Raigarh-Pugalur in the forward direction via SEM at Raigarh end (West to South) (In MU)	Energy transmitted through HVDC Raigarh-Pugalur in the reverse direction via SEM at Pugalur end (South to West) (In MU)
1	2021-22	6989.23	3881.52
2	2022-23	9036.24	4961.13



B. the quantum of power (in MW) exported (South to West) and the quantum of power imported (West to South) for the period April 2021 to August 2023 is as follows:



C. the duration curve of the power order on the HVDC Raigarh-Pugalur in 2021-22, 2022-23, 2023-24 (till Aug 2023) is as follows:



D. From the above and submissions of GCIL, it is observed that:

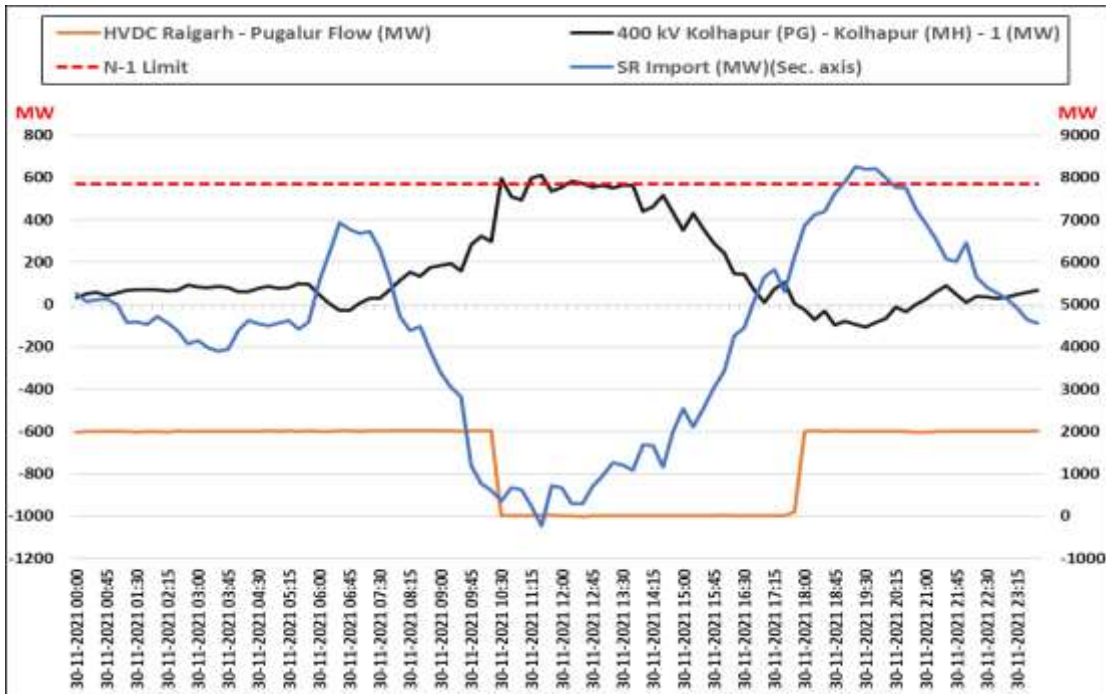
(a) the total energy transmitted through the instant transmission asset during the years 2021-22 and 2022-23 in the reverse direction is approximately 55% of the total energy transmitted through the transmission asset in the forward direction. Further for the period March 2023 to August 2023, the percentage energy flow in reverse direction (45.4 Units) vis-a-vis forward direction (11431.5 units) is only 0.3%.

(b) In terms of % of time, during the year 2022-23 flow in the WR to SR direction was for 65% of time and in the SR to WR direction for 35% time. During the year 2023-24 (April– 2023 to 10 Sep 2023), flow in the WR to SR direction was for ~98.5% of the time and SR to WR direction for ~1.5% of the time.

(c) During the year 2023-24 so far, the maximum quantum of power exported through HVDC Raigarh-Pugalur (South to West) (Pugalur end) (in MW) has been 2500 MW. However the maximum quantum of power imported through HVDC Raigarh-Pugalur (West to South) (Raigarh end) is 6640 MW.

133. We have also taken note of the submissions from GCIL that Raigarh-Pugalur was operated in the reverse direction many times, not to carry power from RE but to manage flows of the Kolhapur-Kolhapur line, which got critically loaded and became N-1 non-compliant most of the time. The following graph for a typical day in November 2021 depicts the above scenario:





Diurnal plot of HVDC Raigarh-Pugalur, SR Import and 400 kV Kolhapur (PG) – Kolhapur (MS) for a typical day

As per the above, even during the SR import period, the HVDC Raigarh-Pugalur was operated from South to West at the minimum power order in order to prevent the frequent reversal of power flow on the HVDC Raigarh-Pugalur. The Petitioner, vide email dated 17.7.2022 and various subsequent communications to GCIL, requested to avoid the frequent reversal of power on the HVDC link, stating that frequent direction changes in power direction may adversely affect the life of the equipment and even premature failures.

134. Therefore, it is established that the said HVDC transmission asset is mainly being utilised for the import of power (from WR to SR) throughout the year. However, the same is also being utilised for the export of power (from SR to WR) for various reasons, including managing flows on other interregional lines.

135. We further note that the beneficiaries of other regions (other than SR) have strongly opposed the inclusion of the said transmission asset under the National Component, stating that they shall have to bear huge transmission charges without even getting any direct benefit from the said system, and it would lead to an undue financial burden ultimately on the consumers of other regions. Accordingly, they



have requested to finalize the sharing of transmission charges for the subject transmission system only after the finalization of the proposed third amendment to the Principal Sharing Regulations 2020 as per the MoP letter dated 30.05.2022.

136. We observe that the SR beneficiaries, APTEL and MOP, have all suggested considering the said HVDC under the National Component under the 2020 Sharing regulations, on the basis of bi-directional flow. We observe that the HVDC Raigarh – Pugalur is operated at its maximum capacity, i.e. 6000 MW in the WR to SR direction during high SR import periods (up to 6600 MW also) and 3000 MW in the SR to WR direction during high export periods. The said HVDC was largely utilised to carry power towards SR, and to some extent, to carry reverse power from SR to WR during 2021-2023. However, in F.Y. 2023 – 24 (till 10th September 2023), the said HVDC Raigarh – Pugalur has been mainly utilized in the forward direction, i.e. from WR to SR, to facilitate the import of power by SR.
137. Keeping in view the above discussions, we now discuss the sharing of transmission charges. The relevant provisions of the 2010 Sharing Regulations and the 2020 Sharing Regulations are as follows:

2010 Sharing Regulations:

“(4) The first part of the bill shall recover charges for use of the transmission assets of the ISTS Licensees based on the Point of Connection methodology. This part of the bill shall be computed in three sub-parts as under:

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]”



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.

.....

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 reactors 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.”

The above provides that 30% of the transmission charges of a particular HVDC are to be considered under the National Component and 70% of the transmission charges under the Regional Component w.e.f. 01.11.2020.

138. The 2020 Sharing Regulations have been amended vide the third amendment gazetted on 27.10.2023, effective from the date of publication in gazette. The third amendment provides as follows:

“ (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:

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 systems to be considered in the Regional component and the National component shall be calculated as follows:

$HVDC_r$ (in %) = (MW capacity of power flow in the reverse direction / MW capacity of power flow in the forward direction) X100

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

Where, $HVDC_r$ (in %) is equal to or less than 30%, 30% of Yearly Transmission Charges 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 ;

As per the above, with 50% reverse capacity of the Raigarh-Pugular HVDC, 50% of the charges shall be included in the National Component, and if the reverse capacity increases to 100%, then 100% of charges shall be included in the National Component, subject to certification from NLDC.

139. In light of the above-quoted regulations, and the fact that the COD of the subject transmission asset was declared on 6.9.2020, the sharing of transmission charges for the instant transmission asset is to be decided for the following periods:



- (a) Period 6.9.2020 till 31.10.2020
- (b) Period from 1.11.2020 till the third amendment of the 2020 Sharing Regulations comes into force.
- (c) Period from the date of effect of the third amendment of the 2020 Sharing Regulations till 31.3.2024.

140. We have considered the submissions of GRIDCO and WBSEDCL, who have submitted that it has been held by the Hon'ble Supreme Court in the case of PTC India Limited (2010) 4 SCC 603, that if there is a Regulation, then whatever charges the Commission determines have to be in conformity with the Regulations. Relevant extracts from the said judgment are quoted below:

“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.”

As per the above, once the Regulations provide a particular treatment for an asset, its treatment has to be strictly as per those Regulations. Accordingly, for the instant transmission asset, which was created for the drawl of power by the Southern region, the 2020 Sharing Regulations would apply, with 30% of its charges under the National Component and 70% of charges under the Regional component. The comments specific to this asset were raised by TANGEDCO during the finalisation of the 2020 Sharing Regulations which were duly considered, and the regulations were finalised on 4.5.2020. The SoR for the 2020 Sharing Regulations specifically dealt with the said comment of TANGEDCO and specified that the treatment of any HVDC may undergo change based on the change in load-generation. After the COD of the instant asset from September 2020 progressively, the data for actual flow has been received, and accordingly, draft third amendment to the 2020 Sharing Regulations was proposed on 12.6.2023. In this light, we deal with the sharing of transmission charges for the instant HDVC asset as follows:

A. Period 6.9.2020 till 31.10.2020

- (a) The applicable regulations for sharing of transmission charges were the 2010 Sharing Regulations which provide as follows:

“(4) The first part of the bill shall recover charges for use of the transmission assets of the ISTS Licensees based on the Point of Connection methodology. This part of the bill shall be computed in three sub-parts as under:

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]"*

(b) The SoR of third amendment to 2010 Sharing Regulations 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”.

(c) We have observed in the abovementioned paragraphs that the instant transmission asset has been planned for the drawl of power by the Southern region. Further, it has been used largely to cater to the drawl of power by the Southern region. The suggestions of MOP to consider an inter-regional HVDC under the National Component based on “bi-directional flow” have been considered to finalise the third amendment to the 2020 Sharing Regulations. The reverse flow, in the instant case, did not happen in October and was up to 500 MW in September 2020 for a very small period. The 2010 Sharing regulations, as quoted above, provide for 10% of charges under Reliability Support charges and 90% to be paid by DICs of the region for whom HVDC has been created. Accordingly, we are of the considered view that 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.

B. Period from 1.11.2020 till the date of effect of the third amendment to the 2020 Sharing Regulations.

(a) The applicable regulations for sharing transmission charges are the 2020 Sharing Regulations, which provide that 70% of transmission charges shall be under the Regional component and 30% under the National Component.



(b) We have given careful consideration to the submissions of GRIDCO, CSPDCL, and WBSEDCL, referring to the Hon'ble Supreme Court judgement in the case of PTC India Limited (2010), 4 SCC 603, directing that if there is a Regulation, then whatever charges the Commission determines have to be in conformity with the Regulations. We have considered the directions of APTEL, which are again quoted here:

“

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.”

As per the above, the APTEL observed that Raigarh-Pugalur HVDC may be considered as National Component under the 2020 Sharing Regulations after due consultation with the statutory authorities, i.e. CEA, CTU, and POSOCO, in the matter and also considering the aforementioned MoP's letter dated 30.05.2022. We observe that 30% of transmission charges for the instant transmission asset are already included under the National Component as per the 2020 Sharing Regulations w.e.f. 1.11.2020. Any enhancement of the percentage beyond 30%, of transmission charges under the National Component can be carried out by way of an amendment to the 2020 Sharing Regulations. This has been done through the third amendment, which was already in process (draft third amendment was issued on 12.6.2023 with comments invited till 12.7.2023) when the APTEL judgment dated 18.7.2023 was passed. Further, APTEL has directed the



Commission to consider the MoP letter dated 30.5.2022, extract of 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.”

(c) As per the above, the MoP also requested the Commission to consider all interregional HVDCs under the National Component based on a certain quantum of bi-directional flow. The letter of MOP cannot be interpreted to imply that the amendment is to be carried out in the 2020 Sharing Regulations in a retrospective manner. We have also taken note of the submission of Respondent SEIL, who has submitted that the 2003 Act does not provide for this Commission to pass regulations with retrospective effect, and accordingly, regulations of this Commission notified under the 2003 Act can have only prospective effect.

(d) The third amendment to the 2020 Sharing Regulations has been carried out. Hence, the relevant provisions of the 2020 Sharing regulations before the said amendment would remain in force until the date the third amendment takes effect.

(e) Accordingly, for 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.

C. Period from the time the third amendment of the 2020 Sharing Regulations comes into force .

(a) The applicable regulations for sharing of transmission charges are the 2020 Sharing Regulations including the third amendment for the said period. The third amendment has been finalised, for all inter-regional HVDCs having bi-directional flow, keeping



in view the suggestions of all stakeholders, including CEA, CTUIL, GCIL and all India beneficiaries.

(b) Accordingly, for the period starting from the coming into force of the third amendment of the 2020 Sharing regulations, the transmission charges of the instant transmission asset shall be shared in terms of Regulation 5 and Regulation 6 of the 2020 Sharing Regulations as amended by the third amendment.

(c) 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 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 including amendments thereof.

Issue No 4.: Status of funding for the instant asset from PSDF/ NCEF?

141. The Commission, vide order dated 29.9.2022, in the instant petition, gave the following directions:

“117. We have considered the submissions of the Petitioner, KSEB and BESCO. The Commission is aware of the fact that capital investments 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 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 the 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.”

142. KSEBL, TANGEDCO, and Karnataka Discoms have submitted that, considering the importance of this asset for renewable energy integration, the funding from PSDF/National Clean Energy Fund be used to reduce the Yearly Transmission Charges of the project.

143. KSEBL has further submitted that the Petitioner has not made any genuine efforts to avail the grant on par with the BNC-Agra HVDC link. In the case of the BNC-



Agra HVDC link, the Petitioner had sought a grant for 50% of the capital cost to be covered by the funding from PSDF, whereas in the case of the Raigarh-Pugalur-Thrissur HVDC transmission system, the Petitioner sent letters to the PSDF funding agency seeking funding only to the extent of 15%. This discriminatory approach adopted by the Petitioner in the case of the subject transmission system as compared to the BNC-Agra HVDC link is entirely arbitrary and impermissible.

144. Other region beneficiaries, such as UPPCL, MSEDCL, and BSPHCL, have submitted that if at all the subject HVDC transmission system is brought under the National Component-HVDC, the Commission may direct the Petitioner to take all the necessary steps to get some part of the recovery of its investment cost through the PSDF / NCEF so as to reduce the ultimate burden on the consumers. This would usher in a win-win situation for the Petitioner as well as the beneficiaries.

145. We have considered the submissions of the Respondents. Considering the huge investment cost of about Rs. 22,000 crore, all the beneficiaries have requested that the Commission issue directions to the Petitioner to seek grants from PSDF/NCEF so that the tariff burden on beneficiaries is reduced. We had directed the Petitioner to approach PSDF funding vide our Order dated 29.9.2022. We observe that no submissions have been made by the Petitioner in regard to efforts made by the Petitioner to avail grant from PSDF efforts. Further, the Petitioner has not responded to the submissions made by the Respondents, in its rejoinder, which shows the casual approach of the Petitioner in not paying heed to the said suggestion of Respondents. We once again direct the Petitioner to approach the PSDF Committee within a month of the issue of this order and make sincere efforts to avail of sufficient grant from PSDF so that the tariff burden on the beneficiaries is reduced.

146. This order disposes of Petition No. 685/TT/2020 in terms of the above findings and discussions.

**Sd/-
(P.K. Singh)
Member**

**Sd/-
(Arun Goyal)
Member**

**Sd/-
(Jishnu Barua)
Chairperson**

