

# **Draft Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) (Third Amendment) Regulations, 2023**

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**COMMENTS AND OBSERVATIONS ON BEHALF OF**

**SEIL ENERGY INDIA LTD**

**(FORMERLY KNOWN AS SEMBCORP ENERGY INDIA LIMITED)**

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## I. SCOPE OF RAIGARH - PUGALUR - TRICHUR TRANSMISSION ASSET

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- The relevant Transmission Asset is the  $\pm 800$  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) (“**Transmission Asset**”).
- The Transmission Asset is under the “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”. The Transmission Asset was constructed by PGCIL and operationalised on 06.09.2020.
- The  $\pm 800$  kV 6000 MW HVDC link with terminals at Raigarh and Pugalur along with VSC based 2000 MW HVDC link between Pugalur and North Trichur (Kerala) was discussed and agreed in the Joint Standing Committee meeting of SR and WR constituents on 20.04.2015, wherein it was decided that the Raigarh – Pugalur – Trichur Transmission Asset would to be implemented as three separate schemes as follows:-
  - (a) Scheme-1: Raigarh-Pugalur 6000 MW HVDC System
  - (b) Scheme-2: AC System strengthening at Pugalur end
  - (c) Scheme-3: Pugalur-Trichur 2000 MW VSC Based HVDC System

## II. PRINCIPLES ADOPTED RE. SHARING OF TRANSMISSION CHARGES OF HVDC SYSTEMS

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- CERC to consider distance, direction and quantum of flow while implementing transmission network. [*National Electricity Policy dated 12.01.2005 (Para 5.3.4) and Tariff Policy dated 28.01.2016 (Para 7.1-7.2)*]
- After the entire country is synchronously connected, the cost of all the HVDC systems shall be borne by all the DICs in the country. [*1<sup>st</sup> Amendment to Sharing Regulations 2010* (Step 4 of clause (2), Para 2.7 of Annexure) & *2<sup>nd</sup> Amendment to Sharing Regulations 2010* (Para 6)]
- For any new HVDC line, CERC shall decide the methodology through an order. However, the 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. [*Statement of reasons dated 26.10.2015 of Third Amendment to Sharing Regulations 2010* (Para 45.17)]
- With developments in sector and change in load-generation mix, if need arises to consider the sharing of transmission charges in the National Component based on bidirectional flow of power, the same would be dealt by CERC at the appropriate time. [*Statement of Reasons dated 10.08.2020 to Sharing Regulations, 2020* (Para 12.2.8, 12.3.3) ]
- National Component will be the sum of National Component – Renewable Energy (“NC-RE”) and National Component- HVDC. NC-RE shall comprise of the YTC for transmission systems developed for renewable energy projects as identified by CTUIL. [*Regulation 5 of the Sharing Regulations, 2020*]

### III. PRELIMINARY SUBMISSIONS

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- Any decision by CERC on the draft 3<sup>rd</sup> Amendment to Sharing Regulations 2020 ought to take place only after CERC has completed adjudication of Petition No. 685/TT/2020 wherein CERC had determined Transmission Charges for the Transmission Asset and included the same under Regional Component.
- APTEL has set aside Order dated 29.09.2022 passed by CERC in Petition No. 685/TT/2020 determining the transmission tariff of the Transmission Asset. *[Judgment dated 18.07.2023 in Appeal No. 433 of 2022]*
- APTEL has *inter alia* observed that: -
  - (a) The Transmission Asset has bi-directional flow of power. (Para 30)
  - (b) Found merit for considering Transmission Asset as asset of strategic and national importance in line with other HVDC systems so that transmission charges are shared on an all India basis. (Para 32)
  - (b) The matter was remanded to CERC to consider the issue afresh in light of APTEL's observations. (Para 33)
- APTEL's Judgment dated 18.07.2023 is subsequent to the draft 3<sup>rd</sup> Amendment to Sharing Regulations 2020.

#### IV. VIEWS OF NODAL AGENCIES

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- PGCIL modified the scope of the Transmission Asset and proposed a set up 2000 MW HVDC terminals at Pugalur and North Trichur in addition to the set of 6000 MW terminals at Raigarh and Pugalur. [*Minutes of 38th SRPC Meeting dated 23.03.2015* (Para 26.0)]
- SRPC approved that for the Transmission Asset, PGCIL could consider overload capacity of 33 1/3% which would take care of any N-1 contingency. [*Minutes of 27th SRPC Meeting dated 12.05.2015* (Para 4.2-4.4)]
- **Minutes of 35th SRPC Meeting dated 11.07.2019** (Para 22.2), whereby:-
  - (a) CTUIL informed that in the Joint Study as well as in the CEA report, the Transmission Asset would also be utilized for export of 29000 MW in reverse direction. 3000 MW (RE surplus) could be exported by SR to WR on this link.
  - (b) CTUIL was of the view that transmission charges for all HVDC links in the country except for specific generation evacuation schemes be shared on all India basis.
  - (c) It was recommended that SRPC will take up with MoP for declaring the Transmission Asset as a project of National importance as it is likely to be used in both the directions.

- It was agreed, in principle, for declaring the Transmission Asset as national and strategic projects/components and accordingly Ld. CERC would be approached. [*Minutes of 37th SRPC Meeting dated 28.10.2019* (Para 5.2, 5.3, 5.4, 5.7, 5.8)]
- In the 2nd interaction meeting of CERC with RPCs held on 26.08.2020, SRPC had proposed that in view of national and strategic importance, the Transmission Asset needs to be included in National Component similar to Biswanath - Agra HVDC system for sharing of transmission charges. [*Minutes of 45th SRPC Meeting dated 28.08.2020* (Para 14)]
- CTUIL stated that consideration of Transmission Asset as national component for sharing transmission charges is under the purview of CERC. However, CTUIL could recommend the asset for consideration under national component. [**Minutes of 38th Meeting of TCC (22.12.2020) and SRPC (23.12.2020)** (Para C.6)]
- CTUIL informed that it fully supports SR-Constituents' request for including the Transmission Asset under National Component since the HVDC link would be utilized in both directions (Export to & Import from SR). Further, CTUIL had submitted to CERC that the Transmission Asset would be used in the reverse direction for export of RE surplus power from SR [*Minutes of 39th TCC (03.12.2021) and SCSRPC (06.12.2021) Meeting* (Para 6.2)].

- **Minutes of 43rd TCC Meeting (04.11.2022) and 44th SRPC Meeting (05.11.2022)** (Para 22.3-22.15) records that:-
  - (a) In terms of the SEM data, 40.02% of energy was exported during the period April 2021 to June 2022 and 59.98% of energy was imported.
  - (b) During the same period, 44.5% of time blocks, the energy was exported and 55.5% of time blocks, the energy was imported.
  - (c) Thus, the energy has been predominantly imported by SR during the peak demand period while exported from Pugalur to Raigarh during other periods.
  - (d) After deliberation, it was concluded that in line with Biswanath Chariali – Agra, HVDC corridor and Mundra – Mohindergarh HVDC link, the Transmission Asset was required to be declared as national and strategic asset.
- **Letters dated 07.01.2021 and 13.12.2021** from the Chairman, SRPC to CERC, requesting it to include the Transmission Asset under National Component and share 100% of the transmission charges under National Component.
- **The 3rd interaction meeting of CERC with RPCs** held on 17.11.2021, SRPC again requested CERC to consider the Transmission Asset under National Component for sharing of 100% transmission charges. Pertinently, CERC conveyed that the issue of considering the Transmission Asset under the National Component, would be considered while hearing the tariff petition in respect of the said Transmission Asset.



## V. RECOMMENDATIONS OF MINISTRY OF POWER

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- **Ministry of Power vide the following Letters** also sought declaration of the Transmission Asset as a National Component (in consultation with CTUIL and Grid-India (POSOCO)):-
  - (a) **Letter dated 30.05.2022 to CERC**, wherein it was observed that from April 2021 to March 2022, power flow from WR to SR was at 64%, while power flow from SR to WR was at 36%. With the commissioning of more RE generating stations in SR, power from SR to WR may also increase.
  - (b) **Letter dated 29.08.2022 to Hon'ble Chief Minister of Tamil Nadu** communicating the letter sent to CERC for considering all the HVDC inter regional links including the subject HVDC transmission system under National component subject to certain conditions.
  - (c) **Letter dated 20.02.2023 to Hon'ble Minister for Electricity, Prohibition & Excise, Government of Tamil Nadu** informing that it has already directed the CERC to consider declaration of 800 KV Raigarh-Pugalur-Thrissur HVDC link as asset of National and Strategic importance based on the case study furnished by Grid-India.

## VI. OBSERVATIONS OF COMMITTEE REPORTS

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- The **Bakshi Committee Report of March 2019** (Para 4.14.2) records that HVDC assets are for benefit of country as a whole and attributing usage to particular beneficiaries may not be appropriate. It was suggested that charges of HVDC lines may be socialized amongst all DICs. Further, Transmission Asset, which has bidirectional features (required under high RE scenario when substantial exports are expected from SR), CERC may consider socializing the same. Pertinently, similar recommendations / suggestions were given by CTUIL to the Task Force.
- The **Jha Committee Report of August 2019** (Para 6(e), 7) also observed that sharing of tariff for RE related system based on utilization through load flow studies shall not be proper. It was suggested to socialize Transmission charges for systems specifically created for renewable energy projects on All India ISTS customers. Pertinently, the Jha Committee Report has been considered by CERC in preparing the 3<sup>rd</sup> Amendment to the Sharing Regulations 2020.

## VII. COMPARISON WITH EXISTING HVDC SYSTEMS UNDER NATIONAL COMPONENT

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### A. Biswanath Chariali (North Eastern Region) – Agra (Northern Region) HVDC system

- The  $\pm$  800 kV Biswanath Chariali- Agra Transmission System was originally agreed to be a part of the associated transmission system / inter-regional system for Lower Subansiri (8x250 MW) and Kameng (4x150 MW) Hydro Electric projects. CERC held that the Biswanath Chariali - Agra corridor is of strategic and national importance and hence the transmission charges of the HVDC portion should be shared by all the DICs in the country. [*Order dated 08.01.2016 in Petition No. 67/TT/2015 (Para 26-28)*]

### B. Mundra (Western Region) - Mohindergarh (Northern Region) HVDC system

- The  $\pm$  500 kV Mundra-Mohindergarh HVDC Transmission System along with the associated transmission system was initially built as a dedicated transmission system. CERC *inter-alia* granted in-principle approval for transmission licence for 400 kV DC Mundra-Dehgam Transmission Line and the HVDC Line including associated 400 kV lines. [*Orders dated 08.06.2013 (Para 6) and Order dated 14.06.2013 in Petition No. 44/TL/2012*]
- Mundra-Mohindergarh HVDC transmission system was covered vide Clause (4)(3)(iii) of Regulation 11 of Third Amendment to Sharing Regulations 2010. CERC held that 1005/2500 part of YTC of the HVDC line shall be included in the PoC calculation by scaling up YTC of AC lines on all India basis. [*Statement of Reasons, Third Amendment to Sharing Regulations, 2010*]

## VIII. SUBMISSIONS ON BEHALF OF SEIL

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- The draft amendment is silent about determination of charges for HVDC system which were originally planned to supply power to a particular region but whose nature subsequently (during planning / construction / commissioning or after operationalisation), changed. Analysis should be basis the current nature of the asset.
- There is no clarity with respect to the ‘system requirements’ which would require an HVDC system planned to supply power to a particular region is operated to carry power in reverse direction.
- The draft amendment results in an inequitable approach adopted by CERC qua. the Transmission Asset to be declared as a National Component. This is unreasonable as the Mundra-Mohidergarh Transmission System, till date, has operated with only unidirectional flow and Biswanath-Chariali Transmission system is under-utilized. The SR is not benefitted by either of these two assets but they still form part of National Component.
- There is no clarity regarding transmission charges to be levied for the Transmission Asset from 06.09.2022 (COD) till notification of the draft amendment, in as much as the draft amendment will have prospective application.

- The draft amendment results in ambiguity inasmuch as whether the transmission charges for existing HVDC systems under National Component, will fall under the proposed computation for determination of transmission charges.
- There is no clarity whether under the Explanatory Memorandum, the analysis of power flow pattern considered by CERC is restricted to the Transmission Asset (i.e., Raigarh - Pugalur HVDC line) only or would cover the remaining assets under the Scheme (Para 1.10)
- The Transmission Asset forms part of a larger scheme under the Transmission System. Considering all schemes of the Transmission System have been commissioned, this will further strengthen the national grid and allow for evacuation of power to other regions.
- CERC has recognized that with the integration of additional renewable generation in the SR, WR NR, HVDC Bipole Lines will play an important role in the flow of RE power in other parts of the country by providing flexibility in power flow, both quantum and direction, under various scenarios of load-generation balance. (Para 1.13 of Explanatory Memorandum)

- 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 India. Therefore, the Transmission Asset will be used for the benefit of other regions, given the bi-directional flow of power, from the Transmission Asset.
- The draft amendment fails to take into consideration the recommendation of Ministry of Power and views expressed by the Nodal Agencies (including CTUIL, Grid-India and SRPC) to declare the Transmission Asset of National and Strategic importance.
- The draft amendment is contrary to CERC’s own stand. Allocation of transmission charges of HVDC system on usage basis is not feasible since marginal participation method cannot be used to determine the usage of HVDC. This was deliberated in the Statement of Reasons dated 26.10.2015, while issuing third amendment to the 2010 Sharing regulations. [*Statement of Reasons, Sharing Regulations 2020* (Para 12.3.2)]
- CERC ought to withdraw the draft 3rd Amendment to Sharing Regulation 2020 which was published on 12.06.2023 in view of APTEL Judgement dated 18.07.2023.
- CERC being the competent authority in terms of the Sharing Regulations, 2020, ought to declare the Transmission Asset to be of strategic and national importance. Consequently, the transmission charges should be shared by DICs of all regions, and not the Southern Region alone.