

भारत सरकार केंद्रीय विद्युत प्राधिकरण दक्षिण क्षेत्रीय विद्युत समिति 29, रेसकोर्स क्रॉस रोड बेंगलूर- 560 009	 सत्यमेव जयते	Government of India Central Electricity Authority Southern Regional Power Committee 29, Race Course Cross Road Bengaluru- 560 009
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सं/No. SRPC/MS/CERC/2023/	दिनांक/ Date	12-07-2023

सेवा में / To

Secretary, CERC

विषय/ Sub: Observations on Draft CERC (Sharing of Inter-State Transmission Charges & losses) (Third Amendment) Regulations, 2023 – Reg.

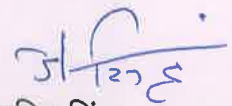
महोदय/ Sir,

This has reference to CERC Draft Notification No. L-1/250/2019/CERC dated 12.06.2023 notifying the Draft CERC (Sharing of Inter-State Transmission Charges & losses) (Third Amendment) Regulations, 2023 requesting for comments/ suggestions/ objections from the stakeholders by 12.07.2023 on the methodology to be followed for apportioning the transmission charges of inter-regional HVDC transmission system between “National Component” and “Regional Component”, specified therein.

In this regard, the observations of SRPC are attached herewith for kind consideration.

संलग्नक/ Encl: यथोपरि/ As above

भवदीय/Yours faithfully,



(असित सिंह/ Asit Singh)

सदस्य सचिव/ Member Secretary

SRPC Observations on Draft CERC (Sharing of Inter-State Transmission Charges & losses) (Third Amendment) Regulations, 2023 – Reg.

1. It is noted from the Draft Regulations that for inter-regional HVDC transmission systems, the transmission charges are proposed to be apportioned between National Component and Regional Component of that Region only for which it has been originally planned for based on its Usage in the Reverse Direction. Further, its Usage in the Reverse Direction is also proposed to be determined by considering the actual flows on all Days in a month individually.
2. Para 1.9 of EM states

The HVDC of the Raigarh-Pugalur Bipole line has been planned for drawl of power by Southern region States to transfer power from the generation rich area of Raigarh in the Western Region to the Southern region. The HVDCs also have some reverse capacity to give reliability support to the grid, and hence, despite the said HVDC being planned to cater to the Southern region, 30% of it was kept under the National component. The Maximum Capacity of HVDC Raigarh – Pugalur in the Forward direction (WR -> SR) and the Reverse Direction (SR -> WR) is 6000 MW and 3000 MW respectively, which implies only 50% capacity is there in the reverse direction as compared to capacity in the forward direction. In any case, including more than 50% of the YTC of the said HVDC in the National component is not appropriate since not more than 50% flow can happen in the reverse direction. Under the National component the charges for said HVDC shall be shared by all beneficiary states of India, such as the Eastern region, the North-eastern region, the Western region and the Northern region apart from the Southern region.

But this appears to be *at* variance with declaring 100% of Yearly Transmission Charges for Biswanath-Chariali/ Alipurdwara to Agra HVDC transmission system and Yearly Transmission Charges of Mundra–Mohindergarh 2500 MW HVDC transmission system corresponding to 1005 MW capacity under National component and SR beneficiaries are sharing the charges.

In this regard, the following are brought forth for kind consideration of the Commission:

3. **Priority Suggestion-1: Case for considering 100% HVDC System Charges under National Component:** In this connection, it is worthwhile to consider the fact that since any transmission system is generally designed based on the maximum expected powerflow with some safety margin, it is but natural that the charges to be recovered for such implemented system should be commensurate with its designed capacity. Considering the fact that an inter-regional HVDC system, apart from effecting bulk-transfer of power, also plays a significant role in providing flexibility & stability to the grid, ideally its full design capacity should be included in the “National Component”, which can also be gauged from the role it plays in ensuring the required import/export ATC/ TTC between the connecting regions (i.e., in case of any critical contingencies including tripping of other existing inter-regional links, flows on this HVDC system can go up to the designed capacity on any day). Further it clearly seen from Para 1.7, 1.8, 1.11 & 1.12 of EM that there are considerable and significant flow in both directions, while the reverse flow is basically to evacuate RE power. Pugalur-Trichur HVDC is VSC based technology which has some distinct advantages and in view of RE evacuation from TN and promoting new Technology Raigarh- Pugalur-Trichur may be considered as National component.

Therefore it is suggested that that no amendment is required in 6(a)(1) and Regulation 5(3)(d) of Principal regulation may be amended as 100% of Yearly Transmission Charges for Raigarh-Pugalur - Trichur HVDC and

Existing Regulation 5(3)(d) may be renamed as 5(3)(e).

4. **Priority Suggestion-2: Case for apportioning the HVDC System Charges under National Component & Regional Component (without resorting to Usage based Computations):**

Considering the above in this, apart from the already allowed 30% Charges under National Component, additional proportion commensurate with the maximum Common Capacity available in both the directions may

be considered for inclusion under National Component. In case of Raigarh-Pugalur –Thrissur HVDC link, this additional proportion works out to 35% [= (3000/6000)x70].

Regulation 5(3)(d) of Principal Regulations may be amended as

65% of Yearly Transmission Charges for Raigarh-Pugalur HVDC and Pugalur- Trichur HVDC and

Existing Regulation 5(3)(d) may be renamed as 5(3)(e).

This may be reviewed as and when capacity is increased to 6000 MW from SR to WR.

5. **Suggestion-3: Case for apportioning the HVDC System Charges under National Component & Regional Component (using the Methodology outlined in the Draft Regulations):**

a) For the reasons stated under Suggestion-1, it is appropriate that apart from the proposed Usage based Component (in Draft Regulations), appropriate Capacity based component also needs be considered for inclusion under “National Component”. If the Commission is not willing to consider the maximum design Capacity for this purpose, then the maximum common capacity available in both the directions shall be considered for determining the Capacity based component for inclusion under “National Component”.

b) Accordingly, the monthly transmission charges (MTC) for inter-regional HVDC systems may be determined as follows:

**Total Transmission Charges = Capacity based Charges (fully under National Component)
Usage based charges (under National Component & Regional
Components as per the methodology outlined in the Draft Regulations)**

➤ Here, the proportion of the Capacity based charges to be included under National Component shall be determined as (maximum common capacity available in both the directions)/ maximum design capacity) x 100.

➤ The balance charges (MTC – Capacity based charges) shall be used in as given below to determine the proportion of the Usage based charges to be included under National Component & Regional Component.

Regulation 5(3)(d) may be amended as

Capacity charges (based on common capacity in both directions) of Yearly Transmission Charges for all HVDC

Following provision is proposed to be inserted under sub-clause (a) of Clause (1) of Regulation 6 of the Principal regulations:

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

HVDCr (in %) =
Maximum power flow in reverse direction (in MW) in any timeblock in the month X100/
Capacity of HVDC transmission system in forward direction (MW
, Balance Monthly Transmission charges corresponding to HVDCr shall be considered in the National
component and the remaining in the regional component.

6. From the suggestions it may also need to be seen, if one considers the fact that if the methodology outlined in the Draft Regulations is to be applied as it is, then Grid-India NLDC may come under severe pressure from the DICs of the concerned region to change the DC Set Points of HVDC System to their advantage contrary to Grid requirement which may be needed to handle the prevailing grid conditions, which may lead to unnecessary litigation. System Operator decisions should not lead to different sharing of charges critical asset under National component and Regional component
7. In light of above, the Commission is requested to appropriately consider the above suggestions while finalizing the Draft Regulations.
