



ग्रीड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)

CIN : U40105DL2009GOI188682

राष्ट्रीय भार प्रेषण केन्द्र / **National Load Despatch Centre**

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Ref: Grid-India/NLDC/MO/29

Date: 18th May 2026

To,

Secretary
Central Electricity Regulatory Commission
6th, 7th and 8th Floor, Tower-B, World Trade Centre,
Nauroji Nagar, New Delhi - 110029

Subject: Grid-India Submissions on CERC Order in Petition No. 1/SM/2026 dated 13.03.2026 on Rate of Congestion charge in real-time operation in inter-state transmission of electricity.

Dear Madam/Sir,

With reference to the above, Grid-India inputs on CERC Order in Petition No. 1/SM/2026 dated 13.03.2026 on Rate of congestion charge in real time operation in inter-state transmission of electricity are enclosed herewith as **Annexure-1** for kind consideration of the Hon'ble Commission and further directions.

The delay in submission of the comments may be condoned.

Thanking You,

Yours Sincerely,

(Manoj Kumar Agrawal)

Executive Director, NLDC

Enclosed – As above

Copy To –

1. CMD, Grid-India
2. Director (SO), Grid-India
3. Director (MO), Grid-India
4. RLDC Heads – NRLDC/WRLDC/SRLDC/ERLDC/NERLDC

Annexure-1

WRITTEN SUBMISSIONS ON BEHALF OF GRID CONTROLLER OF INDIA LIMITED (GRID-INDIA)

The submissions of GRID Controller of India Limited (GRID-INDIA) are as under:

1. The Hon'ble Commission vide Order dated 13.03.2026 in Petition No. 1/SM/2026 has proposed revision of the congestion charge mechanism applicable for relieving congestion in real-time operation of the inter-state transmission system.
2. The Hon'ble Commission has noted that the existing congestion charge rate of Rs. 5.45/kWh was determined in the year 2010 based on the then prevailing Unscheduled Interchange (UI) framework and that significant changes have since taken place in the Indian power sector including transition to the Deviation Settlement Mechanism (DSM), introduction of Real Time Market (RTM), and large-scale renewable energy (RE) integration.
3. GRID-INDIA respectfully submits that congestion charges are an important commercial and operational mechanism intended to maintain grid security, transmission system reliability, and operational discipline during stressed system conditions. Congestion charges provide a deterrent signal against operational behaviour that aggravates congestion in critical transmission corridors.
4. GRID-INDIA further submits that congestion charges are imposed only after various operational measures have been undertaken by the system operator for relieving congestion, including generation rescheduling, operational advisories, and coordination among RLDCs, SLDCs, and regional entities. Therefore, under stressed grid conditions, an effective commercial signal is necessary to induce timely corrective action by the concerned entities.
5. The Hon'ble Commission has proposed that the congestion charge shall be equal to 1.5 times the applicable "Reference Charge Rate (RR)", "Contract Rate", or "Normal Rate of Charges for Deviation (NR)" under the DSM Regulations, subject to a minimum rate of Rs. 3/unit and a maximum rate of Rs. 10/unit.
6. To assess the implications of the proposed framework, an analysis based on operational data from the buyer perspective **for the period from 31.03.2025 to 29.03.2026** across all time blocks, along with analysis of actual congestion charge instances during FY 2025-26. The same is shown in Figure 1.
7. **The analysis (Figure 1) across all time blocks during the period from 31.03.2025 to 29.03.2026 indicates that**
 - In approximately 43% of the time blocks, the proposed congestion charge exceeds the existing congestion charge of Rs. 5.45/kWh;
 - In approximately 57% of the time blocks, the proposed congestion charge is lower than the existing congestion charge; and
 - In around 7% of the time blocks, the proposed congestion charge becomes constrained by the proposed minimum rate of Rs. 3/unit.

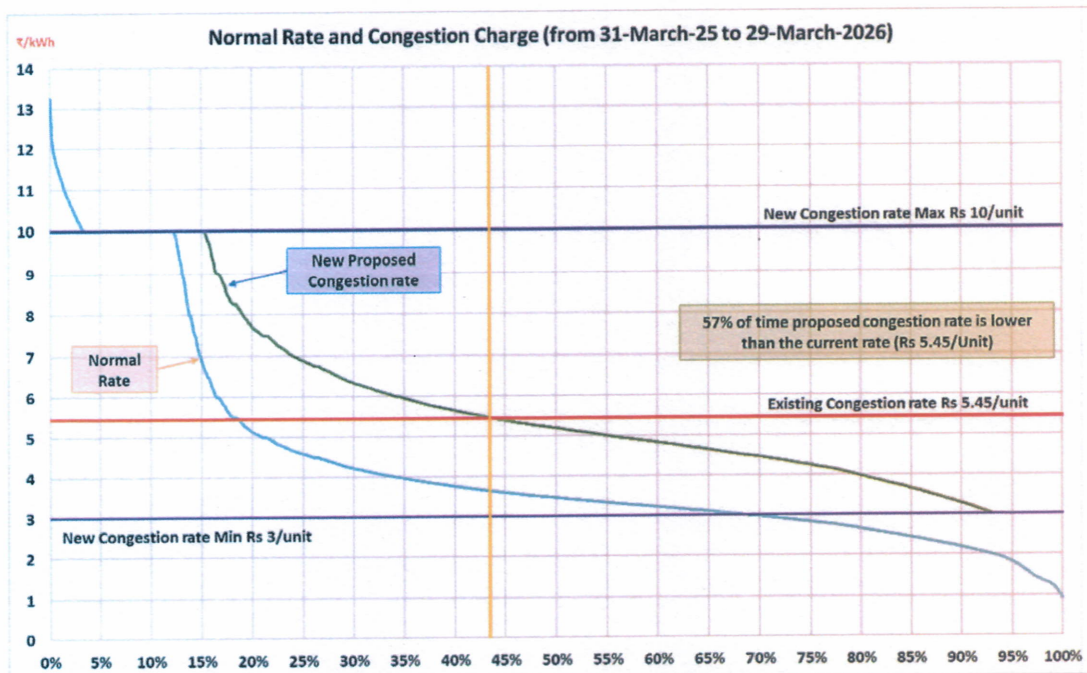


Figure 1: Duration Curve of Normal Rate and Proposed Congestion Charge

8. Generally, the block wise Normal rate reflects the I-DAM and RTM rate in most of the blocks. These collective transaction rates mainly give signals about the demand and supply but may not explicitly capture the real time transmission congestion. The congestion in a network may be due to high generation or due to low demand or vis versa. During low demand / high generation period especially high RE generation period or increment weather condition period where there is more sell bid than buy bid, in those blocks DSM rates are expected to be low, this may lead to proposed congestion charges be less than the existing congestion charge.
9. GRID-INDIA respectfully submits that while the proposed mechanism introduces variability linked to DSM rates, the effective congestion signal would be stronger than the existing rate only for a part of the operating period. Under such operating conditions, the congestion signal under the proposed framework may become weaker even though transmission system stress and corridor congestion may continue to exist.
10. GRID-INDIA also analysed the actual congestion charge instances observed during FY 2025-26 (Table 1), wherein congestion charges were imposed on four occasions, namely 15.06.2025, 16.06.2025, 27.07.2025, and 19.08.2025.

Table 1: Congestion Charge applied in FY 2025-26

Congestion Charge		
Date	TB	Corridor
15-06-2025	53 to 69 & 96	SR-WR
		SR-Export
16-06-2025	1 to 15 and 46 to 66	SR-WR
		SR-Export
27-07-2025	50 to 67	SR-WR
		SR-Export
19-08-2025	55 to 62	SR-WR
		SR-Export
		WR-NR
		NR-Import

11. The analysis indicates that for **three out of the four congestion events, namely 15.06.2025, 27.07.2025, and 19.08.2025, the proposed congestion charge would have been lower than the existing congestion charge of Rs. 5.45/kWh.** Only during the congestion event of 16.06.2025 would the proposed congestion charge have exceeded the existing level. The same is illustrated in Figure 2.

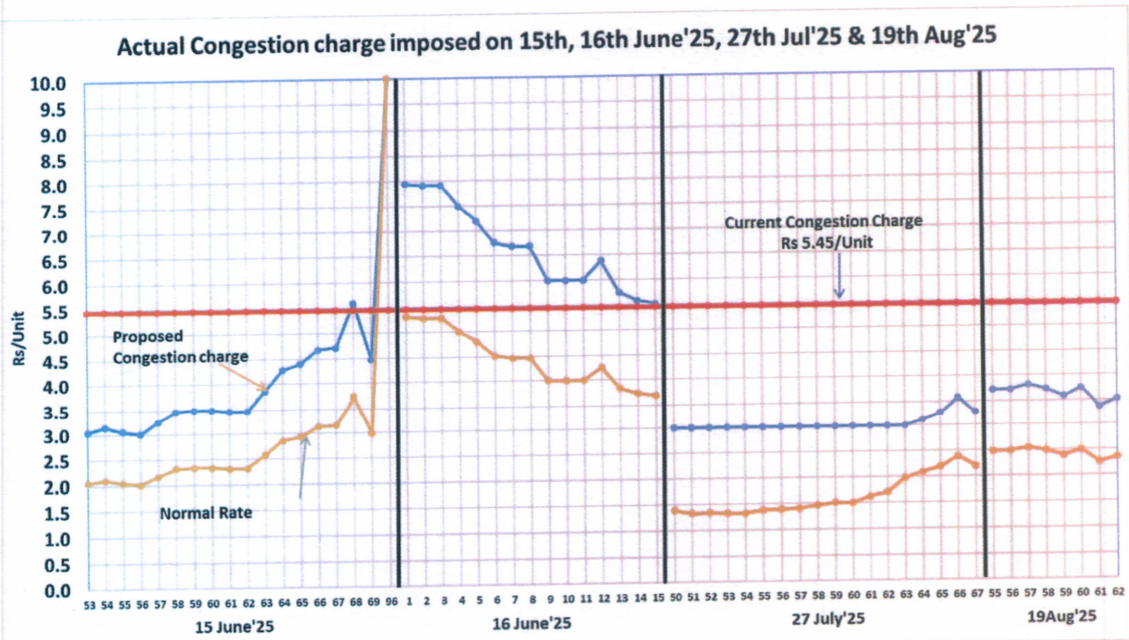


Figure 2: Proposed Congestion on Actual Congestion Imposed in FY 2025-26

12. In view of the above operational analysis, GRID-INDIA respectfully submits that the **proposed minimum congestion charge of Rs. 3/unit may require reconsideration**, as it is substantially lower than the presently applicable congestion charge and may weaken the deterrence effect during stressed system conditions.
13. GRID-INDIA supports the observations of the Hon'ble Commission that congestion management is fundamentally a grid security issue and all entities contributing to congestion should be subject to uniform operational accountability.
14. Historical trends indicate that congestion charges have been required to be applied only on limited occasions. No congestion charges were applied during the period from 2018-19 to 2023-24, while only one instance was observed during 2024-25 and five instances during 2025-26. Accordingly, whenever congestion charges are invoked under stressed system conditions, the associated commercial deterrent should be sufficiently strong to effectively address congestion.
15. With increasing renewable energy penetration in the grid, congestion management requires participation and operational discipline from all classes of entities including renewable energy generators. Accordingly, GRID-INDIA submits that congestion charges should continue to remain applicable to all entities, including RE generators, in a non-discriminatory manner.
16. GRID-INDIA respectfully submits that exemption of any category of entities from congestion charges may dilute operational discipline and reduce the effectiveness of congestion management measures during real-time stressed operating conditions.

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17. In view of the above submissions, GRID-INDIA respectfully submits that:

- a. The revised framework should continue to retain adequate deterrence strength for effective congestion management;
- b. The proposed minimum congestion charge level may be reviewed considering operational requirements and actual congestion analysis and at least not less than the current rate
- c. Congestion charges should be applicable to all entities including renewable energy generators in the interest of grid security, reliability, and non-discriminatory treatment.

18. GRID-INDIA respectfully prays that the Hon'ble Commission may consider the above submissions while finalizing the revised congestion charge framework under the CERC (Measures to Relieve Congestion in Real Time Operation) Regulations, 2009.

