



पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Limited
सूचना का अधिकार अभिनियम 2005 के अंतर्गत केन्द्रीय लोक सूचना अधिकारी
Central Public Information Officer under the RTI Act, 2005
केन्द्रीय कार्यालय, 'सौदामिनी', प्लॉट नं.2, सेक्टर-29, गुडगांव, हरियाणा-122007
Corporate Centre, 'Saudamini', Plot No. 2, Sector-29, Gurgaon, Haryana-122007



CIN : L40101DL1989GOI038121

PGCIL/R/2019/M-49

दिनांक: 11 October, 2019

Shri Vivek Sehgal,
C-50, 1st Floor, Malviya Nagar, New Delhi-110017,

विषय: सूचना का अधिकार अधिनियम, 2005 के तहत जानकारी।

महोदय / महोदया,

कृपया आर.टी.आई. अधिनियम, 2005 के तहत दिनांक 27 September, 2019 को प्रेषित अपने आर.टी.आई. अनुरोध का संदर्भ लें।

उपरोक्त पत्र मे वांछित जानकारी अनुलग्नक-1 मे संलग्न है।

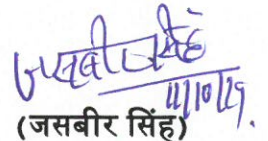
यदि आप केन्द्रीय लोक सूचना अधिकारी के उत्तर से संतुष्ट न हो तो, केन्द्रीय लोक सूचना अधिकारी के उत्तर की प्राप्ति के 30 दिनों के भीतर पहले अपील प्राधिकारी के सम्मुख अपील की जा सकती है। आरटीआई अधिनियम, 2005 के तहत केन्द्रीय कार्यालय, गुडगांव में अपील प्राधिकारी का विवरण निम्नानुसार है:

श्री संजीव सिंह,

कार्यपालक निदेशक (सी एम जी) एवं अपील प्राधिकारी
केन्द्रीय कार्यालय, पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड,
"सौदामिनी", प्लॉट नंबर-2, सेक्टर-29, गुडगांव-122001, हरियाणा।
ईमेल आईडी: sanjeev@powergridindia.com
फोन नंबर: 0124-2571962

धन्यवाद,

भवदीय,


(जसबीर सिंह)

वरिष्ठ महाप्रबंधक (के.आ.) व के.लो.सू.अधिकारी
Email id: cpio.cc@powergrid.co.in

Power Grid Corporation of India Ltd

RTI Query of Mr Vivek Sehgal vide Application dtd 25.09.2019 - Reply by POWERGRID

The mechanism of billing of transmission charges for the inter-State transmission systems (ISTS) is as per the following:-

- The Transmission Tariff of all the ISTS Licensees is determined by CERC as per the CERC Tariff Regulations for Cost Plus Projects or approved by CERC through Tariff Adoption Orders under competitive bidding process. The transmission tariff of all ISTS Licensees in the country are pooled and POWERGRID, as Central Transmission Utility (CTU), raises the bills for transmission charges on the DICs (Designated ISTS Customers- beneficiaries), based on the monthly Regional Transmission Accounts (RTAs) issued by the Regional Power Committees (RPCs), then collects and disburses the payments to all the ISTS Licensees in a prorated manner in line with the provisions of CERC (Sharing of Inter-State Transmission Charges & Losses) Regulations, 2010. It may be noted that no separate Transmission project wise/line wise billing is envisaged in CERC Sharing Regulations, 2010.
- The transmission charges for a calendar month for a transmission system (MTC) for billing purpose is calculated as per yearly transmission charges (YTC) approved by CERC as per extant Tariff Regulations in case of Cost plus Projects and as per the yearly adopted transmission charges for each contract year as provided under Transmission Service Agreement (TSA) in case of Competitive Bidding projects.

For information, for the Tariff block 2009-14, the transmission charges (inclusive of incentive) payable for a calendar month or a part thereof for a transmission system (MTC) under Cost Plus, is calculated as per Regulation 23 of CERC (Terms and Conditions of Tariff) Regulations, 2009 (in short CERC Tariff Regulations, 2009), which is indicated as below:-

$$\text{AFC} \times (\text{NDM}/\text{NDY}) \times (\text{TAFM}/\text{NATAF})$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NATAF = Normative annual transmission availability factor, in per cent

NDM = Number of days in the month

NDY = Number of days in the year

TAFM = Transmission system availability factor for the month, in Percent, computed in accordance with Appendix IV.

As per Regulation 28, NATAF is defined as follows:

AC System : 98%

HVDC bi-pole links : 92%

HVDC back-to-back Stations : 95%

RP Singh

The TAFM is certified by Regional Power Committee (RPC) for complete regional transmission system as per methodology given in Appendix-IV of CERC Tariff Regulations, 2009. In case the ISTS Licensee holds more than one transmission line / project (as in the case of POWEGRID), the Licensee TAFM for entire region of transmission system of the Licensee is certified by the RPC. The TAFM is not approved for each transmission element / project separately by the RPCs but for the complete transmission system of the ISTS Licensee (As normative availability of AC system and HVDC system are different as indicated above and hence the availability for the AC and HVDC systems are approved separately). Considering the certified combined availability, transmission charges payable for whole transmission system usually on regional transmission system basis, is calculated as per Regulation 23 of CERC Terms and Conditions of Tariff Regulations, 2009 as mentioned above and billed accordingly. The outages on account of force majeure events of any particular transmission element/project are not exclusively dealt and indicated in the Availability Certificate issued by the RPC and hence deduction of transmission charges for such outages is not provided separately in the bills raised by CTU.

In view of the above mechanism of billing of transmission charges, the replies to your queries are as given below:-

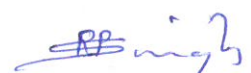
Query 1: Provide copy of Invoices raised by PGCIL and paid any beneficiary for two of its own transmission projects (covered under Regulation,2009-14) wherein outage occurred due to force majeure, showing deduction in unitary charge / transmission charge if any and also incentives / penalty w.r.t normative availability in such a case.

Query 2: Also provide copy of calculation of reduction made from monthly unitary charge / transmission charge, if any, and incentive/penalty due to availability in such a case.

Query 3: Above may please be supplemented with copies of relevant calculations and supporting documentation.

POWERGRID Reply :

As stated above, the availability certificate is issued on regional basis comprising of many transmission elements/projects and the billing is done for the entire system on behalf of all the ISTS Licensees on a pooled basis as per CERC Sharing Regulations, 2010. Further, it is not envisaged in the CERC Regulations to determine the impact of outage of force majeure of any particular transmission element / project and billing thereof exclusively. Hence, copy of invoices & computations showing the impact of outage of force majeure event of specific transmission element/ project, as required by you, is not possible to be furnished by us.



23. Computation and Payment of Transmission Charge for Inter-State Transmission System

(1) The fixed cost of the transmission system shall be computed on annual basis, in accordance with norms contained in these regulations, aggregated as appropriate, and recovered on monthly basis as transmission charge from the users, who shall share these charges in the manner specified in Regulation 33.

(2) The transmission charge (inclusive of incentive) payable for a calendar month for a transmission system or part thereof shall be

$$AFC \times (NDM / NDY) \times (TAFM / NATAF)$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NATAF = Normative annual transmission availability factor, in per cent

NDM = Number of days in the month

NDY = Number of days in the year

TAFM = Transmission system availability factor for the month, in Percent, computed in accordance with Appendix IV.-.

(3) The transmission charges shall be calculated separately for part of the transmission system having differing NATAF, and aggregated thereafter, according to their sharing by the beneficiaries.

(4) The transmission licensee shall raise the bill for the transmission charge (inclusive of incentive) for a month based on its estimate of TAFM. Adjustments, if any, shall be made on the basis of the TAFM to be certified by the Member-Secretary of the Regional Power Committee of the concerned region within 30 days from the last day of the relevant month.

24. **Unscheduled Interchange(UI) Charges.** (1) All variations between actual net injection and scheduled net injection for the generating stations, and all variations between actual net drawal and scheduled net drawal for the beneficiaries shall be treated as their respective

RP Singh

generator shaft : 0.9%

(ii) with static excitation system : 1.2%

Norms of operation for transmission system

28. **Normative Annual Transmission System Availability Factor (NATAF)** shall be as under:

(1)	AC system	:	98%
(2)	HVDC bi-pole links	:	92%
(3)	HVDC back-to-back Stations	:	95%

29. **Auxiliary Energy Consumption in the sub-station.**

(a) AC System

The charges for auxiliary energy consumption in the AC sub-station for the purpose of air-conditioning, lighting and consumption in other equipment shall be borne by the transmission licensee and included in the normative operation and maintenance expenses.

(b) HVDC sub-station

For auxiliary energy consumption in HVDC sub-stations, the Central Government may allocate an appropriate share from one or more ISGS . The charges for such power shall be borne by the transmission licensee and are included in the normative operation and maintenance expenses.

RP Singh

**Procedure for Calculation of Transmission System
Availability Factor for a Month**

1. Transmission system availability factor for a calendar month (TAFM) shall be calculated by the respective transmission licensee, got verified by the concerned RLDC and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges.
2. TAFM, in percent, shall be equal to $(100 - 100 \times \text{NAFM})$, where NAFM is the non-availability factor in per unit for the month, for the transmission system / sub-system.
3. NAFM for A.C. systems / sub-systems shall be calculated as follows :

$$\text{NAFM} = \frac{\sum_{l=1}^L (\text{OH}_l \times \text{Cktkm}_l \times \text{NSC}_l) + \sum_{t=1}^T (\text{OH}_t \times \text{MVA}_t \times 2.5) + \sum_{r=1}^R (\text{OH}_r \times \text{MVAR}_r \times 4)}{\sum_{l=1}^L (\text{Cktkm}_l \times \text{NSC}_l) + \sum_{t=1}^T (\text{MVA}_t \times 2.5) + \sum_{r=1}^R (\text{MVAR}_r \times 4)} \div \text{THM}$$

RP Singh

Where

l identifies a transmission line circuit

t identifies a transformer / ICT

r identifies a bus reactor, switchable line reactor or SVC

L = total number of line circuits

T = total number of transformers and ICTs

R = total number of bus reactors, switchable line reactors and
SVCs

OH = Outage hours or hours of non-availability in the month,
excluding the duration of outages not attributable to the
transmission licensee, if any, as per clause (5).

Cktkm = Length of a transmission line circuit in km

NSC = Number of sub-conductors per phase

MVA = MVA rating of a transformer / ICT

MVAR = MVAR rating of a bus reactor, switchable line reactor or
an SVC (in which case it would be the sum of inductive and
capacitive capabilities).

THM = Total hours in the month.

4 NAFM for each HVDC system shall be calculated separately, as follows :

$$\text{NAFM} = [\sum (\text{TCR} \times \text{hours})] \div [\text{THM} \times \text{RC}]$$

Where

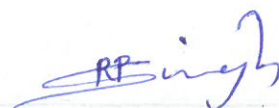
TCR = Transmission capability reduction of the system in MW

RC = Rated capacity of the system in MW.

For the above purpose, the HVDC terminals and directly associated EHV /
HVDC lines of an HVDC system shall be taken as one integrated system.

RB Singh

5. The transmission elements under outage due to following reasons shall be deemed to be available:
- i. Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the transmission licensee, the Member-Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved.
 - ii. Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of RLDC.
6. Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration.
- i) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, onus of satisfying the Member Secretary, RPC that element outage was due to aforesaid events and not due to design failure shall rest with the transmission licensee. A reasonable restoration time for the element shall be considered by Member Secretary, RPC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.
 - ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration.

 R. Singh