

# Sikkim Power Transmission Limited

[Formerly: Teestavalley Power Transmission Limited | CIN: U40109DL2006SGC151871]

Government of Sikkim Enterprise

JV of Sikkim Urja Ltd. (Govt. of Sikkim Enterprise) & POWERGRID (Govt. of India Enterprise)

Ref: SPTL/CERC/2023-24/20240209

Dated:09.02.2024

To,  
The Secretary,  
Central Electricity Regulatory Commission (CERC)  
3<sup>rd</sup> & 4<sup>th</sup> Floor , Chanderlok Building,  
36, Janpath, New Delhi-110001

**Sub: Comments on Draft Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2024.**

Sir,

Sikkim Power Transmission Limited (Formerly: Teestavalley Power Transmission Limited) is entrusted with the implementation and operation of 400 kV D/C Teesta III- Kishanganj Quad Moose transmission line along with 2 nos. line bays and 2 nos. 63 MVAR switchable line reactors at Kishanganj Gas Insulated Substation (GIS) as a part of the master plan for evacuation of power from 1,200 MW Teesta III HEP as well as other Hydro-Electric projects in the State of Sikkim. The transmission line got fully commissioned in February 2019 and is in operation since then.

The Hon'ble Commission vide its orders in (i) Petition No. 108/TT/2016 dated 15th May 2018 (ii) Petition No. 368/TT/2018 dated 22nd Jan 2020, and (iii) Petition No. 96/TT/2019 dated 9th Aug 2020 and (iv) Petition no. 35/TT/2021 dated 22.03.2022 determined the transmission tariff for the asset for control periods; 2014-19, 2019 -24.

The current tariff period will come to an end on March 31<sup>st</sup>, 2024. The Hon'ble Commission has notified *Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for the tariff period from 1.4.2024 to 31.3.2029* vide notice dated 04.01.2024 and has invited comments on the same by 10.02.2024.

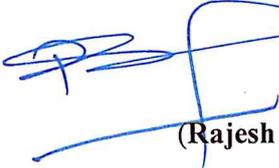


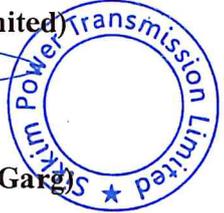
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Our submissions & comments on the *Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for the tariff period from 1.4.2024 to 31.3.2029* are attached as Annexure – I and Annexure - II.

Yours Sincerely,

For **Sikkim Power Transmission Limited**  
(Formerly: Teestavalley Power Transmission Limited)

  
(Rajesh Gargi)  
Chief Financial Officer



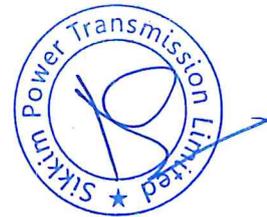
**Submission:**

- 1.0. The Hon'ble Commission has also notified the Explanatory Memorandum on the *Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for the tariff period from 1.4.2024 to 31.3.2029* (Draft Tariff Regulations, 2024).
- 2.0. It is observed that the Hon'ble Commission in its explanatory memorandum for the Draft Tariff Regulations, 2024 regarding O&M expenses – Transmission system, has not taken into consideration the details of the O&M expenditure of SPTL from FY 2017-18 to FY 2022-23, which was sought by CERC for formulation of the Tariff Regulations for 2024 - 29 and were submitted by SPTL vide letter(s) dated 23.05.2023 & 06.07.2023.
- 3.0. The Hon'ble Commission has rightly appreciated the difficulties in O&M faced by transmission utilities in hilly terrain and as per Regulation 36 (3), and has provided relief to some extent by allowing for higher O&M expenses (1.5 times of normative O&M expense) for transmission licensees whose transmission assets are located solely in NE Region, States of Uttarakhand and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh.  
  
However, it is submitted that more than half of the transmission line of SPTL passes through the State of Sikkim and Darjeeling District of West Bengal and these states are not covered in the locations specified in the clause of the regulation. The State of Sikkim, which is entirely a hilly state and Darjeeling District in West Bengal which is also predominantly in the hilly terrains should also be included for allowing higher O&M expenditure. The detailed comment on the clause is placed as **Annexure – II**.
- 4.0. The Hon'ble Commission, in the Explanatory Memorandum of the Draft Regulations, 2024 has elaborated the procedure of arriving at the O&M expenses and it can be seen that the region wise expenditure of POWERGRID were the basis of arriving at the O&M norms.
- 5.0. It is submitted that the deriving of O&M norms on the basis of expenditure of POWERGRID/ large transmission utilities having most of their transmission assets in



plains, puts utilities like SPTL, NETCL etc. who own a single transmission line at a disadvantage considering that POWERGRID and other large utilities have the advantage of economies of scale and are also operating mostly in relatively easy geographical area unlike the hilly and extremely difficult terrain in the case of transmission asset of SPTL.

6.0. Therefore, allowing O&M expenses for hilly terrains, to the extent of 1.5 times of normative O&M expense may cover the additional O&M expenses of very large utilities like POWERGRID, however it doesn't provide relief to single asset utilities like SPTL.



**Quote****Clause 36 Operation & Maintenance Expenses****Sub Clause (3) Transmission System**

The following normative operation & maintenance expenses shall be admissible for the transmission system:

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
<b>Norms for Sub-station bays (Rs Lakh per bay)</b>					
400 kV	25.91	27.44	29.06	30.77	32.58
<b>Norms for Transformers/Reactors (Rs. Lakh per MVAR)</b>					
O&M expenditure per MVA or MVAR (Rs Lakh per MVA or MVAR)	0.229	0.242	0.257	0.272	0.288
<b>Norms for AC and HVDC lines (Rs Lakh per km)</b>					
Double Circuit (Bundled Conductor with four or more sub-conductors)	1.830	1.938	2.052	2.173	2.301

Provided that O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that the O&M expenses for Transmission licensees whose transmission assets are located solely in NE region, States of Uttarakhand, and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh shall be worked out by multiplying 1.50 to the normative O&M expenses prescribed above.

**Unquote**

## Comments of SPTL:

1.0. The Hon'ble Commission has rightly appreciated the difficulties in O&M faced by transmission utilities in hilly terrain and has allowed for higher O&M expenses for transmission licensees whose transmission assets are located solely in NE Region, States of Uttarakhand and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh.

However, the Commission has not mentioned regions like the State of Sikkim and Darjeeling in West Bengal. It is submitted that the terrain in the State of Sikkim (entirely a hilly state) and Darjeeling (predominantly hilly terrains) in West Bengal are equally treacherous, if not more and are engulfed in between mountains and hills and is also extremely prone to landslides, rockslide, shooting stones, rock mass failure etc. Therefore, it would be prudent to include the regions of State of Sikkim and Darjeeling District in West Bengal in the above category of transmission lines.

Additionally, the draft regulation also uses the words “solely” to identify the transmission licensees whose transmission assets are falling in these regions. The use of the word “solely” restricts transmission utilities who have a major portion of their transmission assets (greater than 50%) in the hilly terrains and only a minor portion of their transmission assets in plain terrain, from benefitting from the regulation. Therefore, it would be prudent to identify the transmission licensees as those having a majority of their transmission assets (greater than 50%) located in in NE Region, State of Sikkim, Darjeeling in West Bengal, States of Uttarakhand and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh.

It is submitted that the 400 kV Teesta III – Kishanganj D/C transmission line of SPTL is an Inter-State Transmission Line of 215 km length comprising of 589 nos. towers passing through the States of Sikkim, West Bengal and Bihar. More than 140 km of the transmission line (about 67% of the transmission line route length) falls in the difficult hilly terrains of Sikkim and Darjeeling in West Bengal having steep slopes with altitudes as high as 2600m. Balance 72 km of the transmission line (about 33% of the transmission line route length) falls in the plains of northern Bihar which is also flood prone owing to the Mahananda River and tributaries.



Therefore, as there is no mention of regions like State of Sikkim and Darjeeling in West Bengal in the draft regulations, this puts SPTL at a position of disadvantage as major part of the transmission line of SPTL (about 67% of the transmission line route length) passes through the most difficult hilly terrains of Sikkim and Darjeeling District of West Bengal.

Furthermore, as a minor part of the transmission line of SPTL (about 33% of the transmission line route length) also passes through the plains of Bihar, the use of word 'solely' in the regulation might prevent utilities like SPTL, from benefitting from the regulation, whose majority of transmission line passes through the hilly terrain.

It is further submitted that transmission licensees like SPTL are incurring higher O&M expenditure in hilly terrain which is around 3 times the O&M expenditure in plain terrain, mainly due to deployment of resources to the tune of 3 times in hilly terrain as compared to the plain terrain. The reasons for higher O&M expenditure are detailed in the following paragraphs.

Therefore, the regulation should include *all such transmission licensees whose majority of the transmission assets (greater than 50%) are located in NE region, State of Sikkim, Darjeeling District of West Bengal, States of Uttarakhand, and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh.*

- 2.0. The O&M norms notified by the Hon'ble Commission are based on O&M expenditure of different regions of POWERGRID whose structure and transmission system scale and spread across geographical area is drastically different as compared to smaller single asset transmission companies having significant part of asset in hilly and difficult areas. Hence such norms have not captured the actual O&M expenditures of Single Asset companies (ISTS Licensees) which do not enjoy the same economies of scale for establishment cost as that of POWERGRID.

**3.0. Insurance Expenses:**

- The Hon'ble Commission, in the Explanatory Memorandum of the Draft Regulations, 2024 has factored Self Insurance Reserves at 0.09% of the gross asset



value of the AC transmission system for normalisation of the actual O&M expenses. The cost considered for insurance at 0.09% gross asset value is not sufficient to even cover the bare minimum actual expenses being incurred towards insurance by a single asset company like SPTL. The actual insurance expenses in the case of SPTL is approximately 0.20% of gross asset value which itself accounts for substantial part of the O&M expenses (almost to the tune of 75%) allowed by the Hon'ble Commission. This is due to the reason that transmission system of SPTL is lying in a very prone to natural calamities i.e. earthquake, landslides, rockslides, floods etc. and therefore a higher risk is being assessed by the insurers.

- The Insurance policies are taken from authorized insurance agencies, for complete coverage of the transmission system including substation and stores. The expenditure incurred against the insurance premium for the line is as below:-

Year	Premium Expenditure (in Rs. Lakh)	Insurance Premium as percentage of O&M expenses
2019-20	124.66	33%
2020-21	227.08	59%
2021-22	298.83	75%
2022-23	316.26	76%

- The Hon'ble Commission has made the following observations regarding hydro generating stations in the Explanatory Memorandum:

*“The Commission, with regard to the increase in insurance premium for hydro generating stations, is of the view that the hydro generating stations are at utmost risk on account of an increased occurrence of natural calamities in their vicinity which may result in a substantial increase in their insurance premium. Therefore, the Commission proposes to allow the increase, if any, in insurance premiums for hydro generating station on a case-to-case basis after due prudence check.”*



Therefore, it is evident that the Hon'ble Commission has recognized the risks faced by hydro generating stations due to occurrence of natural calamities and hence has allowed insurance premiums on prudence check. However, the Hon'ble Commission has not taken into consideration, the risk faced by transmission lines located in hilly region which are also susceptible to damages due to landslides, flash floods due to cloud burst resulting in washing away of towers located in the river basin. It is submitted that the transmission lines located in hilly regions are also at great risk. The damage to transmission lines of other utilities connected at 400 kV Rangpo GIS was also observed during flash flood in Sikkim on 3<sup>rd</sup> / 4<sup>th</sup> October 2023. Hence, the insurers are quoting high premium for the lines located in high-risk zones such as in the case of SPTL.

*In view of the high expenditure towards insurance premium for SPTL transmission line, due to above stated reasons, insurance charges may be reimbursed as per actual as it is not possible to cover the insurance premium from O&M charges allowed by CERC.*

#### 4.0. Economies of Scale towards Establishment Costs:

- SPTL maintains a Corporate Office in New Delhi on rental basis which is essential to carry out the various corporate works in addition to the operation & maintenance works viz. Billing for recovery of Transmission charges; Legal works; Managing Regulatory Filings; Financial Accounting works; Engineering, Procurement & Contract related works; HR related works etc. as also conducting Board meeting, audit committee etc.
- Site offices and stores are also being used only for the O&M of a single 400 kV D/C line.
- Being a single asset company, SPTL doesn't enjoy the same economies of scale for establishment costs and cost towards site offices and stores, as available to other large utilities in the sector.



#### 5.0. High Operating and Repair & maintenance cost:

- The towers in the hilly terrains are located in steep slope areas with huge overburden. As a result, the towers are vulnerable to landslides, rockslide, shooting stones, rock mass failure etc. The area is also highly earthquake prone. Further, it is pertinent to mention that the hills through which the line passes are part of Great Himalayan range, Shivalik range.
- In order to protect the foundation of towers extensive and regular civil works such as Construction of protection walls, Drain construction, Backfilling & Levelling of eroded soil at tower foundations etc. are taken up every year in O&M. The works are carried out by continuous monitoring of all the towers, identifying civil works to be taken up and execution of the civil works through competent agencies/vendors.
- It has been observed during the O&M of the project in the past 5 years monitoring & maintenance of the line in hilly terrain requires deployment of additional manpower & resources due to the above stated reasons.
- This results in multi-fold increase in expenditure towards such maintenance as compared to that of plain terrain which is being incurred by SPTL for O&M of its ISTS line.
- Most of the tower locations are far away from motorable road, in steep hills and therefore, patrolling of only 02 to 04 towers can be completed in a single day.
- Rapid vegetation growth requires frequent corridor clearances viz., trimming, lopping, bamboo clearance etc.
- Due to frequent landslides, various civil protection works are required.
- Productivity of manpower is less due to extended rainy season across the stretch of the transmission line and due to early sunset as well as foggy weather conditions.

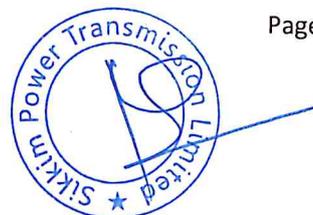


So, the effective duration for O&M is lower compared to transmission lines passing through plain terrains.

The above factors necessitate deployment of additional manpower to carry out complete O&M activities within the shortened available time.

**Prayer:**

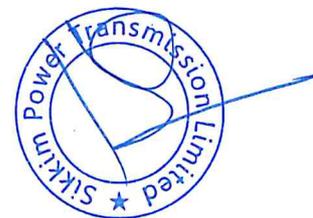
- The experience of SPTL in O&M its transmission asset shows that high O&M cost is inevitable, and these higher costs are on account of various reasons not attributable to company and beyond its control. The main reasons responsible for high O&M expenditure are summarized below:
  - a) High insurance cost due to transmission line passing through high-risk zone as assessed by insurance companies.
  - b) Unfavorable economy of scale due to single asset company and consequently, expenditure on head office, site office, stores etc being loaded on income of single asset.
  - c) High O&M cost due to difficult terrain of line, harsh weather, heavy rains/ landslides, fast vegetation growth, less working days/year and less working hours/ day in hills.
  - d) Loss of work and engagement of manpower to resolve sever Right of Way issues and compensation even during O&M stage due to tree cutting & crop damage.
- All the above factors, despite all efforts, lead to lower productivity and higher cost as compared to transmission assets in normal plains. Based on operational experience of last 4 years it is submitted that O&M of transmission lines in difficult area (hills & forest) is much harder and challenging than lines in normal plain areas, which increases the O&M cost many a times as compared to allowed O&M charges by CERC.
- Looking into the facts and ground reality, the expenditure of companies having predominantly such transmission lines like SPTL, NETCL etc. should be assessed and



evaluated separately as different category and based on the factual position, O&M cost may be derived for sustainability and proper upkeep of important transmission assets.

- It is earnestly submitted that O&M charges of 1.5 times for Lines located in difficult areas are not sufficient to cover actual expenditures being incurred by these companies.
- In the situation of lower O&M funds available, the maintenance of these important assets which have been constructed with such great difficulties overcoming numerous natural, legal and administrative hurdles along with time and cost overrun will greatly suffer. The financial loss/ burden to the transmission licensee on account of deficit in O&M charges will have far reaching consequences and ultimately lead to compromise in upkeep, health and reliability of transmission system, which will not be in the interest of any stakeholder.

In view of the above, we would request the Hon'ble Commission takes cognizance of all the above submissions elaborated by SPTL and *allow for higher O&M expenses (3 times the normative O&M expenses) plus insurance charges as per actual for all such transmission licensees whose majority of the transmission assets (greater than 50%) are located in NE region, State of Sikkim, Darjeeling District of West Bengal, States of Uttarakhand, and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh.*



**Quote**

**Clause 3. Definitions:-**

*In these regulations, unless the context otherwise requires: -*

*(12) 'Capital Spares' means spares individually costing above Rs. 20 lakh, which is maintained by the generating company or the transmission licensee over and above the initial spares.*

**Unquote**

**Comments of SPTL:**

The nature of transmission assets is such that during most of the major breakdown events in the transmission line, the cost towards individual spares does not exceed Rs. 20 lakhs. However, as frequency of such incidents is higher, the benefit of the capitalization of spares over Rs. 20 lakhs will not benefit the transmission licensees and the expenditure towards the same from O&M expenses is also higher.

Costing of Capital Spare more than Rs. 20 lakhs is more closely applicable / related to large plants & machinery mostly in power plants. Therefore, capitalization of spares individually costing upto Rs. 20 lakhs will be very rare given its intended benefit to the transmission licensee.

**Prayer:**

It is therefore prayed that 'Capital Spares' may be defined as *spares individually costing above Rs. 20 lakhs in case of which is maintained by the generating company and Rs. 5 lakhs in case of which is maintained by the transmission licensee, over and above the initial spares.*

