Submissions on
Approach Paper for
(Terms and Conditions of Tariff)
Regulations, 2024
By
Power Grid Corporation of India Limited

31st July, 2023

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1) General

At the outset we would like to take this opportunity to acknowledge and express our sincere appreciation for the Central Electricity Regulatory Commission (CERC) for its invaluable contribution to the development and growth of the power sector in India over the past two decades. CERC has formulated and enforced regulatory framework which created an enabling environment for the power sector's expansion. These regulations have not only encompassed aspects such as tariffs, grid connectivity, power trading, and grid operation but have also fostered transparency, consistency, stability, fair competition, and investor confidence within the Indian power sector. CERC's regulations and timely interventions have been instrumental in driving the rapid growth of renewable energy capacity in India.

CERC has facilitated market mechanisms, including power exchanges, to promote efficient electricity trading. This has created a competitive environment, attracted private investments, and stimulated innovation and efficiency enhancements. Further, acting as a guardian in the power sector, CERC has also established a fair and efficient dispute resolution mechanism protecting stakeholders' genuine interest and thus ensuring a safe and stable business environment and inspiring investor confidence.

Regarding tariff, CERC has played a pivotal role in ensuring fair and reasonable tariffs for generating and transmission companies and at the same time prioritizing the interests of Indian consumers. CERC's Tariff regulations have aimed to simplify the tariff determination process, requiring minimal regulatory interface while upholding regulatory jurisprudence. By providing stability and predictability to utilities, it has encouraged investments in the sector. The stable and transparent approach of CERC has facilitated predictable future returns for generating and transmission companies, leading to substantial capacity additions. Ultimately, this has benefited end consumers by providing them with reliable and affordable power at cheapest costs under regulatory oversight.

Here we would also like to highlight that under the regulatory oversight and guidance of CERC, POWERGRID along with other Transmission licensees have made significant investments in ISTS transmission. This substantial investment has led to a muti fold expansion of the Transmission infrastructure throughout the country. The developed Indian transmission sector has played a special role in delivering the generated power to the customers in a reliable and efficient manner. POWERGRID, being the country's major transmission licensee has always been in the forefront to facilitate the reliable transmission of power from generators to load centers through its transmission system that is spread across the length and breadth of the country. It strives to provide the best transmission service to its customers by building and maintaining one of the largest and most robust interconnected grid networks in the world.

As of today, every distribution utility has the flexibility of sourcing the cheapest power available in the market, thereby reducing their power purchase costs. Though, this flexibility in the system has been built keeping in mind the future requirements of the sector which has enabled us to reach to a stage wherein General Network Access (GNA) has been implemented and transmission planning is now delinked from generation contract. Further, with the motive of enhancing competition in the power sector and subsequently, lowering the cost of electricity to consumers, Market Based Economic Dispatch (MBED) may soon be implemented. These paradigm changes have been enabled by Transmission and it requires further augmentation of transmission network to ensure successful realization of ambitious goals set by Government of India. It is worth noting that Transmission has been an enabler for growth of overall Power Sector. While ISTS transmission costs account for a very small fraction of the total costs of supply for Distribution Utilities, it provides them with immense benefits, as follows:

- ***Reduction in power procurement costs:*** The robust transmission network has given flexibility to the Distribution Utilities and in turn created pressure on the Generation projects to adopt cost control measures, thereby bringing in efficiency. This has provided every distribution utility options to source the cheapest available power from the market.

- ***Reduction in congestion:*** Robust ISTS network with increasing Inter regional capacity has facilitated merit order dispatch and the development of One Nation -One Grid. Transmission Congestion, experienced earlier, along with market splitting has become a rarity now, resulting in discovery of single price across the power market. The volume of electricity that cannot be cleared in Power Exchanges as percentage of Unconstrained Clear Volume has reduced to only 0.06% in 2020-21 as compared to 16% in 2013-14. Para 2.1 ‘Review of Power Sector Growth’ of the Approach paper also provides a glimpse of the changed scenario where Peak Deficit & Energy Deficit has reduced substantially despite high growth in energy demand.

- ***Higher Realised Revenues:*** The development of One Nation-One Grid has resulted in improving and emboldening Power Trade where surplus electricity generated can be sold at the Energy Exchange without it being wasted. It not just reduced power shortages but also helped all generating stations, especially with high degree of seasonality such as Hydro Power Plants to realize additional revenue. This fact is further supported by the growth trends in the Short-Term power market where volume of Electricity transacted through Power Exchanges has increased at a CAGR of 31.9 % between 2008 and 2022 (*Source: Market monitoring report 2021-22*).

- ***Rural Electrification:*** Percentage of Rural Population with Access to Electricity has increased from 72.3% in 2011 to 99.3% in 2021 (as per data from The World Bank), the same has also been enabled by the robust growth in Transmission Sector.

- ***Reliability:*** The grid has become more efficient, reliable, and secure to facilitate enhanced power transmission. The robust transmission network ensures a reliable and uninterrupted power supply to Distribution Utilities.

- ***Renewable integration:*** Transmission system plays a catalyst role in energy transition by extending the grid to renewable rich areas and facilitating the Renewable Energy projects to connect into the grid. The augmentation of the transmission system has enabled the Grid to adjust to the variability due to the increase in Renewable penetration and has helped in achieving installed capacity of Renewable Energy to 176.49 GW as on 30.06.2023.

- ***Support for Industrial Growth***: Open access and availability of reliable and high-quality power through efficient transmission networks has encouraged industrial growth leading to economic development.

The need to meet the peak demand of the system and to provide reliable access to the generation capacity including Renewable integration as discussed above is met by rapid expansion and strengthening of the transmission system. In view of the above discussion, investments in the transmission sector should be viewed in a positive sense, since the benefits reaped by it are multifold.

Approach paper:

We appreciate the efforts put in by the Staff of the CERC in bringing out this well-researched and thoughtful Approach paper which analyses key macroeconomic and other indicators along with issues and challenges of the power sector at large. It encompasses different aspects of the regulated tariff and proposes several options to spur discussion among various stakeholders. The paper succeeds in highlighting various aspects of transmission tariff in depth, the existing scenario in the power sector and likely developments in the future that shall have an impact on tariff determination.

We understand that the objective of the Approach Paper is to ensure a balance between the financial viability of the sector developers and the consumer's interest, while attracting steady investments towards the development of the sector. We therefore appreciate the focus given in the Approach paper on following key areas;

- ***Regulatory Certainty:*** Regulatory certainty is the key to the growth of the Power Sector and is required to provide a stable and predictable environment for investors. When regulations are clear and consistent, it instills confidence in investors to commit their funds to power sector projects. This confidence is particularly important considering that the investments in power generation and transmission projects are for longer durations (25-35 years) and therefore, the investment decisions are made based on their individual feasibility and the returns based on the then prevailing norms. With regulatory certainty, investors can assess risks accurately and make informed decisions, leading to increased investments in the sector.

As the tariff is determined on multiyear principles, it is important to maintain certainty in approach over each control period to maintain the confidence of investors and regulated entities. Any major departure in established regulatory approaches creates considerable risk for regulated entities. This is particularly so for existing assets which have been set up based on the prevailing regulations and tariff principles applicable at the time of the assets being planned. Here it is to mention that predictability in regulatory approaches is one of the main objectives of Tariff Policy, 2016.

Quote:

4.0 OBJECTIVES OF THE POLICY

The objectives of this tariff policy are to:

(a) Ensure availability of electricity to consumers at reasonable and competitive rates;

(b) Ensure financial viability of the sector and attract investments;

(c) ***Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimise perceptions of regulatory risks;***

…….

Unquote:

We appreciate that the Approach paper has duly recognized the importance of regulatory certainty and highlighted it at multiple places. At preamble, it expresses that

Quote:

"*The very essence of a multi-year tariff framework is to maintain regulatory certainty by not only considering the existing scenario but also anticipating likely future developments that may impact the tariff."*

Unquote:

At para 2.4 of the Approach paper “Assured Returns, Mitigation of Risk Perception and Regulatory Certainty” has been duly recognized as a key aspect to encourage private investments. We welcome the views expressed here.

Further, considering the future investment requirement which is discussed in detail in Approach paper and to attract investors, there is necessity to minimize regulatory risks and install regulatory certainty. Tariff Policy,2016 also lists one of its objective as to “*Ensure financial viability of the sector and attract investments*”. Here it is to mention that Approach paper while discussing RoE at para 4.16 has rightly pointed out that considering the events in last 5 years in Power Sector wherein a large number of Power Utilities underwent financial constraints including insolvency, the risk perception of financial institutions towards the power sector has increased. Thus, the risk perception of investors, including other stakeholders such as lenders, needs to be lowered so that it provides right signal to the investors to invest in the sector for creating the much needed capacity.

In view of the above, regulatory risks have to be minimised and regulatory certainty is to be ensured. It may be ensured that any change, if deemed necessary to the terms and conditions of tariff should be implemented without compromising on regulatory certainty. Further, any change in the regulations in the ensuing Tariff period that shall have any financial implications be levied only on new projects/assets and avoid complications in the functioning of the existing projects/assets. **To have regulatory certainty and financial stability of the Utilities, we therefore suggest that any changes in the Regulations shall be brought out only for the projects/assets for which Investment Approval is achieved after 31st March 2024.**

- ***Anticipating Future Growth and Energy Transition***: India has now targeted to achieve 500 GW of non-fossil fuel based capacity by 2030. As more and more Renewable generation is projected to be integrated with the Grid, augmentation of Grid is required on a continuous basis. Strengthening of the existing transmission network is required to accommodate an additional 300 GW which will require considerable capital investment.

CEA in its report titled “Transmission System for Integration of over 500 GW RE Capacity by 2030” has estimated that the transmission network capacity addition planned under ISTS for integration of additional wind and solar capacity by 2030 will be 50,890 ckm and 4,33,575 MVA respectively with an estimated investment of Rs 2,44,200 crores. The present inter-regional transmission capacity is 1,12,250 MW. With the additional inter-regional transmission corridors under implementation/ planned, the cumulative inter-regional transmission capacity is likely to be enhanced to about 150,000 MW in 2030.

Further, CEA in its 20th Electric Power Survey, published in November 2022 has projected the Peak Demand to grow to around 273 GW by FY 2026-27 and to 361 GW by FY 2031-32 on account of the multiple Government initiatives such as energy efficiency measures, penetration of electric vehicles, solar roof top, National Hydrogen Mission, PM KUSUM Yojna, etc.

In order to achieve the above targets, the renewable generator and their investors will need assurances regarding the availability of transmission system capacity and connectivity to sell power without any transmission constraint and realize their investments. Therefore, huge investment in the transmission sector is required in a timely manner. Therefore, an environment of regulatory certainty and gaining investors' confidence will be key factors for executing the transmission system augmentation projects.

- ***Simplification of Tariff Determination Process***: We appreciate and share the concern raised in Approach paper that due to the increasing number of assets whose tariff needs to be determined under the Regulated Tariff Mechanism (RTM), the tariff determination process has become repetitive and cumbersome. We also feel that there is an immediate need to simplify the tariff determination process.

Approach paper has proposed various alternatives in this regard and has kept simplification of the tariff determination process as the core idea to drive the terms and conditions of tariff determination for the period FY 2024-25 to FY 2028-29. We welcome these initiatives. POWERGRID, based on its past experiences, also wishes to propose some additional suggestions in this regard which are not covered in the Approach paper. These suggestions are discussed in the subsequent part of our Submissions.

Considering the above discussion, we would again like to express our sincere appreciation and gratitude to CERC & its staff. We further reemphasize the need to maintain the fast pace of growth and continued investors' confidence in the power sector. To achieve this it is crucial to maintain and reinforce the current approach of regulatory certainty and minimizing regulatory risks for investor throughout the lifespan of their investments. Further, given the scale of investments required, POWERGRID believes that a focused Regulatory impetus in the coming tariff block of 2024-29 is essential to facilitate mobilization of debt at competitive rates from the market and also generation of adequate internal resources to infuse equity.

Summary of observations/ suggestions by POWERGRID on Approach Paper is presented in next paras and detailed observations on transmission related matters is discussed subsequently.

2) Summary of Observations on Approach Paper

- ***Tariff Determination***: In the case of the Normative Approach -1, the method of indexation factor requires more clarity as indexation factor is required to be calculated for all projects which may increase the complexity of tariff calculations as different assets and different projects have different issues. In the case of the Performance Based Hybrid Approach i.e., Approach 2, we are of the view that for Transmission, it is very similar to the current approach except suggesting Interest on loan component also on normative basis instead of actual weighted average loan portfolio. The CERC may explore this option to link the interest on loans with reference rate enabling utilities to recover the cost incurred. Accordingly, it is requested that the reference rate may be provided as below:

    - Projects wherein no foreign funding is deployed –SBI MCLR (1 Year) plus 200 basis points which would be able to cover the interest costs and its fluctuations.
    - Project wherein foreign loans have been deployed – Reference rate may be allowed as SBI MCLR (1 year) plus 400 basis points, which shall also be inclusive of FERV.

- ***Interim Tariff:*** Presently Transmission utilities are not being able to recover the tariff till the time the CERC comes out with the final tariff order as despite having provision in present regulations, interim tariff is not being issued. This leads to delays in cashflow for licensees besides an additional burden of one-time arrear on DICs. Therefore, it is suggested that 90% of the claimed tariff as per the filed petition may be allowed by CERC to be provisionally billed (as per sharing regulations) to the beneficiaries without interim / final order in the new regulations. After final order, the under and over recovery of tariffs can be adjusted along with simple interest at Bank rate, which may be notified by CERC.

- ***Reference Cost for Approval of capital Cost:*** Considering the large number of variables involved, it is practically challenging to determine Benchmarking cost in Transmission. Therefore, POWERGRID support the views expressed in the Approach Paper regarding continuing the present methodology of carrying out the prudence check of the capital cost.

- ***Computation of Interest during Construction:*** Since POWERGRID follows prudent phasing approach to keep overall IDC low, we are of the view that the second approach (ref para 4.4 of approach paper) wherein the IDC is allowed on the basis pro rata deduction of total IDC worked out till actual COD may be allowed.

- ***Treatment of Liquidated Damages:*** POWERGRID follows the approach as laid down in Judgment by APTEL in Appeal No. 72 of 2010 in its tariff petitions for the treatment of LD. We agree that the additional capitalisation forms need to be tweaked so that LD information is submitted along with the tariff petition to bring in more clarity and avoid risk of double deduction. Accordingly, CERC is requested to notify a separate disclosure form for the Liquidated Damages along with the tariff formats for proper representation of LD amount.

- ***Price Variation:*** POWERGRID deals with Price Variation in its EPC contracts strictly as per the contractual provisions and if there is delay on account of the contractor, then the price variation is invariably restricted to the date up to SCOD or actual PV, whichever is lower. We are of the view that the PV impact for the period of delay not condoned is very minimal and to capture the same for restriction in tariff world be cumbersome and increase complexity of tariff determination without commensurate benefit. Therefore, the existing approach of treatment for price variation may be continued.

- ***Renovation and Modernisation (R&M):*** Considering the peculiar nature of Transmission, where certain assets keep getting added to the original asset in a phased manner to provide continued service, R&M approach is not followed in true sense. Therefore, we are of the view R&M may not be made applicable for Transmission. Regarding expenditure required to extend the life as proposed in Approach paper, it is proposed that for assets completing useful life beyond 20 years, a normative special allowance may be allowed to transmission licensees to recover cost on account of replacement due to obsolescence, unavailability of spare or failure of some equipment etc.

  Special Allowance may be allowed for AC system on 'per km'/ 'per MVA' / 'per bay' basis, similar to component wise normative O&M. In addition, AddCap for HVDC Systems and FACTS devices may be continued as per the prevailing practice of allowing AddCap after prudence check. Further, outage availed to carry out any refurbishment/ replacement works under special allowance may be considered as deemed available.

- ***Initial Spares***: We support the view to reduce the number of categories for Initial spares but considering separate spare requirement for AIS & GIS Substation, existing practice of separate norms for both categories may be continued. Further, regarding one norm for both Green field and Brown field sub-stations, it is requested that common norm for both may be specified in line with the spare requirement of brownfield assets only as most of the works coming under RTM are

likely to be extensions of existing substations only. Further, HVDC S/s may also be clubbed with AIS S/s.

For system reliability, initial spare requirement is mandatory for Transmission assets including HV cables and therefore it is prayed that in line with spare requirement in "±320kV VSC based 2000 MW Pugalur (HVDC) - North Trichur HVDC(Kerala) HVDC link" project, initial spare with ceiling limit of 3% may be allowed for HV Underground Cables.

- ***Delay towards obtaining Statutory Clearances:*** POWERGRID supports the proposal to continue land acquisition as an uncontrollable factor and to include the delay in obtaining forest clearance as an uncontrollable factor. Further, it is proposed that delay on account of obtaining statutory clearances like Railway Clearance/ NHAI clearance, delay in grant of Shutdowns by RPCs/RLDCs/SLDCs etc. also needs to be covered under uncontrollable factors as they are beyond the control of the transmission utilities.

- ***Servicing Impact of Delay even if it is condoned –*** POWERGRID and its Senior management has always been proactively and rigorously pursuing the statutory authorities for getting clearances and approvals at the earliest and take all necessary actions at highest level possible to reduce delay in project execution.

  It is requested that once the delay has been condoned, project should not be subjected to any further deduction / penalty. Considering that the utilities are automatically disincentivized if the project gets delayed, if any additional penalty as discussed is imposed, it will lead to further loss to developer without any fault. Such approach may unnecessarily result in increased uncertainty and risk in the sector and will affect Investor's sentiment. Therefore, it is prayed to the CERC to continue with the existing approach.

- ***Segregation of Normative Expenses:*** We agree with the observation made that O&M expenses have historically been allowed as one expense, and any change in the methodology as discussed by segregating them in Employee Expenses and other expenses may result in unnecessary complications. Further, Regulations should provide for pass through of any extraordinary items like pay revision impact as and when the decision of a pay revision is finalized in the subsequent year as it is a Change in Law event.

  POWERGRID has implemented the pay revision in accordance with the Guidelines by the Department of Public Enterprises (DPE) and Presidential Directive. Performance Related Pay (PRP) is an integral part of basic wage under Pay Revision in line with the notification of Government of India. Therefore, PRP may

be included as part of employee cost in the normalized O&M expenditure for FY 2018-19 to FY 2022-23 to arrive at the normative O&M norms for 2024-29.

- ***O&M Norms for Special Cases:*** POWERGRID is of the opinion that present approach of single country wise rate for a given configuration has evolved over last 20 years based on past experiences and has given desired result of efficiency, simplicity and uniformity. Therefore, the same may be continued. Specifying region-wise rates may result in complexity and may make the process regressive in nature.

  We propose that instead of devising two different norms of O&M Expenses for plain and hilly areas, the present approach may be continued. Regarding specific difficulties faced by some single project RTM companies, separate rates or an additional factor over and above single normative notified rates may be provided.

- ***Inclusion of Capital Spares:*** We agree with the proposal that recurring and low value spares below Rs. 20 lakhs may be made part of normative O&M expenses, while capital spares with a value in excess of Rs. 20 lakhs may be allowed to be reimbursed through a separate petition to be filed by the utility.

- ***Depreciation:*** We welcome the proposal that the depreciation rate may be specified considering a loan tenure of 15 years instead of the current practice of 12 years. However, the same shall be applied prospectively in new tariff Regulations i.e it should be made applicable for only for assets whose Investment Approval is done post 31.03.2024.For other assets, it is requested to continue with the existing approach of considering loan tenure as 12 years for depreciation computation.

- ***Rate of Return on Equity:*** We submit the following
  - RoE for Transmission must be in line with the risk perception and market expectations, and we feel that with time, construction and operational risks are only increasing, and there has been no reduction in the risk profile of Transmission in last 5 years.
  - ***Construction risk in Transmission is very high in complete value chain in Power Sector compared to Generation and Distribution.***
  - *The recommendation made in said FoR report may not be relevant in present changed circumstances where many initiatives to improve cash flow to Generation business etc. have been taken.*

- ***For Transmission, the upside revenue is capped i.e., maximum at an availability of 99.75% whereas there is no limit to the downside. Thus, any reduction in RoE will impact Transmission more than any other sectors.***

- *Reduction in ROE during the life of the project would create regulatory uncertainty and make investments in the sector less attractive to the investors.*

- *To attract international investors the return on equity for generation/ transmission business in India should be at par if not more than the return allowed by regulators in other countries.*

- *Reduction in RoE if any, may potentially result in higher cost of debt i.e., on 70% of the project cost.*

- *Reduction of Rate of RoE has negligible impact on overall cost of power to the end consumer, but it may end up in creating adverse financial situation for Generators and Transmission Companies.*

- ***Investments in generation and transmission projects are for a long duration (25-35 years) and therefore, the investment decisions are made based on the returns prevalent at the relevant times. Reduction in rates will have a negative impact on the equity already invested in the existing and under construction projects.***

Therefore, we are of the view that the existing RoE of 15.5% should be maintained for transmission business for Tariff block 2024-29 also to have regulatory certainty and financial stability of investors.

If in case CERC considers to revise the RoE for transmission business, it should be done only for the assets whose Investment Approval is done post 31.03.2024 i.e., for new projects/assets only.

- ***Tax Rate:*** Tax liability of the companies for a particular financial year depends upon the level of income, rebate/exemptions available, tax holidays, applicability of MAT, deferred tax liability, etc. The implications of tax liability are long term in nature, and the amount of tax paid/to be paid by the company may not be on the current year income level and varies from time to time as per applicable sections of relevant Finance Act. In future when tax holiday u/s 80 IA /any other exemption/deduction will not be available, the effective tax rates for POWERGRID will be higher than MAT rate or ceiling of Corporate Tax Rate. With this background it is proposed that actual effective tax rates as applicable for POWERGRID may be considered for grossing up.

- ***Life of Transmission Systems:*** We support the view that the useful life of Substation may be increased to 35 years. However, to mitigate any adverse effect on system performance due to increase in useful life, following is proposed:

  - A normative special allowance may be allowed to transmission licensees from 20th year onwards for assets of AC system completing useful life to cover cost on account of periodic replacement due to obsolescence, unavailability of spare or failure of some equipment etc.

  - AddCap may continue to be allowed for HVDC Systems as per the prevailing practice after prudence check.

  - Cases where existing assets may be required to be replaced before completing 35 Years including cases of Reconductoring, Capacity augmentation etc., some allowable depreciation for original asset will remain unrecovered. Therefore, it is proposed that in such cases, any unrecovered cost / depreciation with carrying cost and any other relevant charges may be allowed as one time reimbursement.

- ***Sharing of Charges:*** POWERGRID is committed towards Government of India's vision of promoting Renewable energy. It is proposed that in-principal approval required under section 17(3) of the Electricity Act 2003 permitting lease/rent for pre specified related business i.e. RE installations, Data Centre, Green Hydrogen, BESS, EV Charging Station, etc. in Sub-station areas may be provided through enabling regulations under the next Tariff regulations.

  Further, rent charges due to above businesses may be considered as non-tariff income or alternatively, decapitalization of lands from the existing transmission projects may be allowed for utilizing the same for new business by expanding or bringing in more clarity to existing Regulation 19.5.(d).

- ***Decommissioning/Upgradation/Replacement of Assets:*** The provisions under Tariff Regulations should be supportive to the upgradation of existing transmission system while providing the benefits to the beneficiaries. Thus, there is a need that transmission licenses be suitably compensated wherein replaced assets cannot be put into use again and therefore it is proposed that one time allowance of unrecovered depreciation along with dismantling or any other associated cost may be allowed.

- ***ADDITIONAL SUGGESTIONS:***

  - ***Additional Suggestions to optimise handling of large number of petitions:***

    - ***Suggestion 1:*** Licensees may be allowed to claim tariff based on tariff norms specified in regulations on last approved capital cost without mandatory requiring hearing of all the petitions. Licensees may be mandated to submit the calculation sheets and requisite information to CERC on affidavit accompanied by applicable filing fees and forward the same to all respondents and upload required calculations on their website as per existing requirements. For the same Separate standard tariff forms may be notified by CERC.

    Further, Tariff Petition may be allowed to be clubbed into a single Petition on the basis of region wise or block wise or any other combination as deemed fit. The uniqueness of the projects as per the Investment approvals will be maintained in the clubbed petitions. This will significantly reduce number of petitions especially for the True up petitions having no AddCap or DeCap or any directions/liberty specified by CERC in its last orders, where True up process is majorly limited to arithmetic truing up exercise based on actual MAT rates, interest rates applicable etc.

    - ***Suggestion 2:*** In case hearing for some petitions is deemed required under regulatory framework, CERC may notify simplified tariff formats as proposed in option 1 and utilities shall file petition in accordance with revised simplified format. Subsequently CERC may conduct hearings and issues orders for such petitions. Standardised formats will simplify the process of Petition filing, scrutiny and onwards issuance of orders by CERC.

    Further, regarding filing fee in all above options, the same shall be paid as per the current requirement even though the petitions are clubbed. Thus, POWERGRID will ensure that fee applicable shall continue to be calculated on project basis.

  - ***Useful life of Control & Protection for HVDC, FACTS, AC Sub-stations:***

    Based on international experience of utilities, guidelines of CIGRE W.G. 4.54 and POWERGRID experience of O&M of HVAC, HVDC & FACTS systems, useful life of Control & Protections (C&P) of these systems may be defined as 12 years in the interest of timely upgradation/ replacement of obsolete systems for reliable & secure Grid operation.

o ***Conditions on filing Tariff Petitions:*** Existing Tariff Regulations directs utilities to file tariff petition only if expenditure incurred is more than 70% of the cost envisaged in the Investment Approval or Rs. 200 Crore, whichever is lower. It is requested to provide provisions in Tariff Regulations for filing of Tariff Petition in case an element is commissioned for more than a specified period such as 6 months regardless of the criteria provided under present Tariff Regulations.

o ***Observations on interest calculation on Recovery / Refund due to subsequent order:*** In case of modification in sharing of charges due to any order by CERC/ APTEL or higher court at a later date, any credit / debit adjustment of transmission charges to the relevant DICs may be allowed to be done along with simple interest at the SBI bank MCLR rate. Above will reduce the litigation and brings clarity to paying as well as receiving entity.

3) Detailed Observations of POWERGRID on the Approach Paper

CHAPTER -3 of Approach Paper

Possible Approaches to Tariff Determination

The Approach paper discusses the different tariff approaches adopted over the years and how it has eventually moved to present hybrid approach wherein most of the components of the tariffs are allowed on a normative basis irrespective of actual cost.

Approach paper also highlights that due to the increasing number of assets under the Regulated Tariff Mechanism (RTM), the tariff determination process over time has become repetitive and cumbersome. Therefore, simplification of the tariff determination process is the core idea that shall drive the terms and conditions of tariff determination. Paper underlines the need of bringing efficiency and simplification in the present system of hybrid mechanisms of tariff setting by moving closer to a normative or performance-based approach so that the same would positively impact the interests of consumers as well as utilities. With the above background, Approach paper explores the option for determination of tariff on a complete normative basis or modifying the existing approach to allow more parameters on a normative basis and proposes following two options;

i. ***Approach 1:*** Under this approach capital cost for a project shall be continued to be approved on an actual basis after prudence check. Transmission tariff is to be determined as per existing methodology upto the cut-off date and subsequently the AFC components determined for the base year (1st year post cut-off date for new projects & FY 2024-25 for old projects) shall be clubbed under the following two categories.

1) AFC excluding O&M expenses
2) O&M expenses

Indexation - The above two components subsequent to base year for each project shall be determined based on indexation factors which will be specified by CERC. Indexation factor for each component will be specified as % of the previous year component, i.e. AFC component for the Nth year/AFC component for the (N-1)th year.

Post expiry of each tariff period, the CERC shall revise only the indexation factor pertaining to “AFC excluding O&M component” for each Project for each year and no revision to be made to the indexation with regard to O&M expenses.

Further, in case any additional capitalisation is incurred or is required, the petitioner may file a separate petition seeking approval of capital expenditure and once such capital expenditure is allowed, the variation on account of additional capitalisation on the AFC can be serviced by first computing the impact on the AFC and then adjusting the same through the same indexation mechanism as specified above.

Through the same exercise, the CERC can also specify the indexation factor, for the above two categories for the next tariff period.

ii. ***Approach 2:*** Paper proposes further simplification of the existing Performance Based Hybrid Approach. It has been stated that for Transmission, all components of tariff except 'Interest on Loan' is already allowed on normative basis. Interest on normative loan capital is allowed at the actual weighted average rate of interest. It is to be analysed whether this interest rate can also be fixed with linkage to the reference rate.

Submissions/Suggestions by POWERGRID

Keeping in mind the objective of simplification of the process by exploring the option for determination of tariff on a normative basis or allowing more parameters on a normative basis, following is suggested:

1) **Approach 1:** We appreciate the shifting of present tariff methodology towards normative tariff, wherein, once capital costs are approved on an actual basis after prudence check, all other AFC components are determined on normative basis. We understand that the basic idea is to allow AFC components to post cutoff date based on the predetermined trajectory or indexation. It will save considerable and recurring efforts being put in by the generating companies and transmission licensees as well as the CERC. While adopting the normative approach, this predetermined trajectory or indexation plays the decisive role and same to be derived by analysing the trend of various AFC components or finding statistical correlation, if any, of AFC components with capital cost encompassing each kind of transmission projects. In addition, this predetermined trajectory or indexation must cater to all kinds of situations or exceptions faced during the project lifecycle.

However, after going through the sample calculation provided at Annexure -I, it is observed that under this approach, tariff for each project shall be determined as per the present practice and subsequently, five tariff components shall be bifurcated into two categories. Further, an indexation factor for a particular year shall be the ratio of current year tariff to previous year tariff as indicated in Annexure-I. Thereafter, base year or first year tariff shall be arrived for successive years based on indexation factor derived.

It is submitted that proposed approach in current form may not be able to meet the desired objective of simplicity and efficiency in tariff determination process as it adds more steps to existing practice and thus it may increase the complexity of tariff determination. Specifically, determination of proposed indexation for each project would

be a tedious task and may not deliver the desired results. POWERGRID had filed around 430 True up petitions for the current tariff block which is expected to increase up to about 530 in next tariff block. Considering the high number of petitions, working out indexation for each project based on proposed methodology may result in repetitive task and thus, proposed approach through this methodology may not serve the intended purpose of simplification of Tariff Determination Process.

In view of the above, there is a need to bring in more clarity, fine tuning, and details regarding the methodology by way of detailed discussion with the relevant stakeholders. Therefore, we are of the view that the first approach in present form is not going to meet the desired objective of simplification of process.

2) **Approach 2 - Performance Based Hybrid Approach:** This approach proposes to allow tariff component "interest on normative loan capital" to be linked to the reference rate rather than at the actual weighted average rate of interest as done presently. It is submitted that presently four tariff components out of total 5 components, viz. depreciation, return on equity, O&M & Interest on Working Capital (IoWC) are allowed on normative basis and easy to compute.

However, the rate of interest for allowing 'Interest on loan' component is the weighted average rate of interest calculated on the basis of actual loan portfolio. Usually, Debt is raised through various modes like bank term loans, bonds, or loans from multi-lateral agencies and no. of loans are also commensurate to capital cost of particular projects. Typically, a project consists of around 10-20 different loans and utilities are required to provide details regarding each loan such as loan drawl date, interest rate, etc. which makes the process of petition preparation and approval repetitive and time consuming. Accordingly, simplification of process of approving interest on loans by linking interest on normative loan capital to the reference rate is a welcome step as it will reduce the tedious task of developing and submitting project and element wise loan schedules and thus shorten/simplify the tariff filing and tariff determination process resulting in increased efficiency.

Further, experience gained after implementation of this Approach-2 in block 2024-29 may lay path for shifting to complete normative tariff in future, as intended through Approach-1.

POWERGRID Suggestion: *Based on above discussion, POWERGRID proposes that*

- *In Approach -1, the method of indexation factor requires more clarity as indexation factor is required to be calculated for all projects which may increase the complexity of tariff calculations as different assets and different projects have different issues. Therefore, we are of the view that the first approach in present form is not going to meet the desired objective of simplification of process.*

- *Approach 2 i.e., Performance Based Hybrid Approach would result into simplification in tariff determination as by linking fixing interest rate to the reference rate will provide intended objective of all five tariff components on normative basis.*

  However, it is requested that the reference rate may be fixed to enable recovery of cost incurred. Keeping view of the above, reference rate may be provided as follow:

  - *Projects wherein no foreign funding is deployed – Reference rate may be linked with the benchmark rates such as Marginal Cost of fund based lending rate (1 years) of the State Bank of India (SBI MCLR) issued from time to time plus 200 basis points which would cover the interest costs and its fluctuations.*
  - *Project wherein foreign loans have been deployed –Reference rate may be allowed as SBI MCLR (1 year) plus 400 basis points, which shall also be inclusive of FERV.*

  Further, at para 4.14 of the Approach paper, Weighted Average rate of Interest and FERV is discussed. *Regrading proposal for allowing hedging cost instead of FERV in para 4.14, it is submitted that 100% hedging to foreign loans may not be possible. Even if the same is exercised, the cost would be very high which would far outweigh the saving in cost on account of exchange rate variations. Therefore suggestion as proposed above for approach-2 may be considered for FERV also.*

The above suggestion by POWERGRID may also be considered for para 4.14 also.

CHAPTER -4 of Approach Paper

Financial Aspects impacting Tariff

Para 4.2.1: Capital Cost- Background

The Approach paper discusses that Tariff Regulations provides provision for interim tariff for new projects before issuance of final tariff order. This helps utilities minimise time gap between the commissioning of the project and the generation of cash flows by means of interim tariff.

Alternatives proposed in Approach Paper

The provision for interim tariff can, therefore, be continued in the next tariff period as well. However, comments and suggestions are sought from stakeholders on the continuation of the said provision.

Submissions/Suggestions by POWERGRID

CERC Tariff Regulations provides for granting interim tariffs as a certain % of claimed tariff till final tariff is issued. The difference between the provisional tariff and final tariff are billed subsequently as per the regulations. Tariff up to 80-90% of the claimed tariff were allowed in past through Interim tariff order.

This provided a sound mechanism to start the cash flows from commissioned asset by allowing the licensee to bill a major portion of tariff from the COD. However, despite of such provisions existing in the Regulations, the CERC did not prefer issuing provisional tariffs in 2019-24 tariff block. In this regard it is submitted that

- Considering the high number of Tariff Petitions being filed regularly in CERC, time required for prudence check and other case to case constraints, considerable time is invariably required in issuance of final tariff order.
- Till issuance of final tariff order, no cash flow is generated for Transmission licensee whereas it has to pay its debt and O&M expenses from its internal resources. In the past also, issuance of final order in high capex projects like NER-Agra HVDC projects, Raigarh-Pugulur- Thrichur HVDC projects, etc. took considerable time which led to cash flow constraint for POWERGRID and large one-time arrear impact along with interest on DICs
- With regard to Generators, it is understood that the provisional billing starts from COD as per PPA clauses. TBCB Transmission licensee's tariff also starts from their COD in terms of TSA.

- Issuance of final order without provisional orders also results high one-time arrear burden on DICs along with interest burden.
- Issuance of two tariff orders i.e Provisional order and Final order leads to duplicity of work and considering petition loads at CERC, this may not be the best approach.

POWERGRID Suggestion: *Based on above discussion, it is requested that 90% of the claimed tariff as per the filed petition may be allowed to be provisionally billed as per the provision of Sharing regulations without interim / final order as it would provide cash flow to RTM licensee. Further, it will remove the requirement of provisional tariff order, hence, reducing the workload of CERC. The under / over recovery of tariffs as per final order can be adjusted as per existing regulations. This would also benefit to the DICs by way of reducing their interest and sudden impact of arrears.*

Para 4.2.2: Procurement of Equipment and Services

The Approach paper discusses that in order to protect consumer interests and considering benefits of transparent process of competitive bidding, it would be prudent to mandate the procurement of equipment and services for all RTM projects through competitive bidding duly following the policy/guidelines issued by Government of India.

Alternatives proposed in Approach Paper

Need to mandatorily award work and services contracts for developing projects under the regulated tariff mechanism through a transparent process of competitive bidding, duly complying with the policy/guidelines issued by the Government of India as applicable from time to time.

Submissions/Suggestions by POWERGRID

All works and services contracts for RTM projects undertaken by POWERGRID are already being awarded through a transparent Open Competitive Bidding process duly complying with the policy/guidelines issued by the Government of India as applicable from time to time.

However, under exceptional circumstances such as due to compressed time schedule or any other exigency, works may have to be awarded from an empanelled list or through limited tenders to known suppliers/vendors with good past record. The same may also be allowed under exceptional conditions after prudence check by CERC.

POWERGRID Observation: *POWERGRID welcomes and support the suggestion to make it mandatory to award all work and services contracts for developing RTM projects through a transparent process of competitive bidding.*

- ***Para 4.2.3: Reference Cost for Approval of Capital Cost – Benchmark Cost v/s Investment Approval Cost***

The Approach paper discusses that historically in the absence of a better reference/benchmark cost, paucity of reliable data and the complexities and difficulties involved, the Commission in previous control period has relied on investment approval for approving capital costs for RTM projects. With regards to transmission systems, the cost is affected by tower design, terrain, soil type and wind zones, and therefore, it is generally argued that benchmarking will serve a limited purpose and may not be a better alternative to current project specific Investment Approvals

Alternatives proposed in Approach Paper

Comments and suggestions of stakeholders are invited on other efficient reference costs other than Investment Approval costs that can be considered for prudence checks.

Submissions/Suggestions by POWERGRID

As mentioned in Approach paper, Capital cost in the context of transmission assets depends upon multiple variables:

- *Project specific conditions* such as terrain, soil type, wind zones, tower design, compensation, cost of land, project location, Right of Way (RoW) Constraints (including urbanization, river/highway/ railway line crossings, crossing of other transmission lines, forest area) and weather conditions may lead to different capital costs of similar transmission assets.
- *Market forces driven* by demand supply balance viz availability of competition among vendors, purchase quantum (one time order vs repeat orders), input cost variations, economic environment, etc.
- *Technology adopted* for implementation of the substation (AIS or GIS) and requirement of reactive compensation, etc.

Considering the large number of variables involved, it is practically challenging to determine Benchmarking cost.

It is pertinent to highlight that for RTM projects, POWERGRID follows a robust and time-tested system of preparing cost estimates for obtaining Investment Approval. The cost estimates are prepared based on estimated BOQ as per approved scope of work, period of commissioning, estimated cost of financing, overhead expenditure, Schedule of Rates (SOR) costs, compensation, etc. Further, the capital cost of the project is obtained from contract price discovered through a transparent Open Competitive Bidding process and are also subjected to internal and external checks and balances. Therefore, the outcome of such bidding process is the best that the market could offer at a particular point of time depending on the prevailing market forces.

POWERGRID Suggestion: *POWERGRID supports the views presented in Approach paper regarding continuing the present methodology of carrying out the prudence check of the capital cost.*

• *Para 4.3: Capital Cost for projects acquired post NCLT Proceedings*

The paper discusses that for projects acquired post NCLT Proceedings, acquisition value of Assets is generally lower than the historical cost of Assets. Therefore, for Section 62 projects acquired post NCLT Proceedings, clarity needs to be provided in the Regulations as to what capital cost is to be considered for the purpose of computing the tariff. Further, the issue of the cost of debt servicing, including repayment, that were allowed as a part of the tariff during the CIRP process is to be addressed.

Alternatives proposed in Approach Paper

1. Historical Cost or Acquisition Value whichever is lower should be considered for the determination of tariff post approval of Resolution Plan.

2. *Tariff provisions to be included to address the issue of the cost of debt servicing, including repayment, that were allowed as a part of the tariff during the CIRP process.*

Submissions/Suggestions by POWERGRID

1) Though various generators are presently undergoing insolvency proceedings, the possibility of transmission companies also likely to undergo the NCLT proceedings cannot be ruled out. Thus, the issue needs to be deliberated from transmission perspective also.

2) As discussed in the Approach paper, the acquisition costs of projects acquired post NCLT Proceedings may be considerably lower than the historical value of the assets.

The possibility of securing the acquisition price higher than the present market value/ historical value through the insolvency proceedings is very unlikely, which is typically associated with mergers and acquisition process. Generally, creditors have to take huge haircut as the acquisition price is very less compared to present market value/ historical value. Thus, the benefit of lower acquisition cost discovered through the bidding process is required to be passed on to the consumers for Section 62 projects acquired post NCLT Proceedings.

3) Further, the CIRP process may take considerable time in some cases. In such cases if the assets are either stranded, not operational for a longer duration or proper O&M is not done, additional capital expenditure may be required for operationalizing the assets as per required standards, rules and regulations. In addition, while acquisition, buying entity may have to incur legal and statutory expenses which should also be allowed to be capitalised.

4) In regard to the Tariff provisions for addressing the issue of the cost of debt servicing, including repayment, we are of the view that as the project is already in Insolvency and undergoing financial constraint, the existing cash flow ensured by Section 62 tariff may be the only mean for its future survival and hence required to be continued. The same is also essential to make the project financially lucrative for strategic investors. Any reduction in tariff at this stage may jeopardise chances of its revival. Further, it is incorrect to state that debt servicing may not be done during the resolution/ liquidation process and some proportionate revenue proceeds may be allocated by the IRP for debt servicing besides statutory and operational payments.

POWERGRID suggestion: *Based on above discussion, regarding Capital cost, we agree that Historical Cost or Acquisition Value whichever is lower should be considered for the determination of tariff post approval of Resolution Plan. Additional capitalization required for operationalizing the assets may also be allowed. Further, the equity part of the original investment or equity deployed in acquisition cost as per Resolution plan whichever is lower may be retained as equity while determining tariff so as to make the investment lucrative while allowing the tariffs for such acquired assets.*

Regarding Tariff during CIRP process it is proposed that till the time, CIRP process concludes, the existing tariffs may need to be continued. Once the revival process is concluded, future tariff to be allowed may be revisited based the acquisition price as discussed.

- ## *Para 4.4.1 Computation of IDC – Post Scheduled COD*

The Approach Paper discusses the issues and challenges faced during computation of IDC to be deducted in certain cases where delay is not condoned but due to prudent phasing of loans either no or very less IDC pre SCOD is accrued or even after delay, IDC is well within the amount approved in Investment Approval. In such cases, owning to utilities' best phasing practices, overall IDC is minimized but still, presently significant IDC is disallowed in case of non-condonation of delay. Considering the above issues, the paper recognized the need for a pragmatic and holistic approach towards determining IDC.

Alternatives proposed in Approach Paper

The paper puts forth the following options for Regulatory Framework and invites comments and suggestions on the same to arrive upon the intended purpose:

i) Existing mechanism wherein the pro-rata deduction (based on delay not condoned) is done on IDC beyond SCOD.

ii) Pro-rata IDC may be allowed considering the total implementation period wherein the actual IDC till the implementation of the project is pro-rated considering the period upto SCOD and period of delay condoned over total implementation period.

iii) IDC approved in the original Investment Approval to be considered while allowing actual IDC in case of delay.

An illustration has been provided to explain the above options:

Consider an asset that was supposed to be implemented in 36 months but suffers a delay of 12 months. Further, the Commission has condoned a delay of 4 months.

X = IDC upto SCOD (0-36 months)

Y= IDC beyond SCOD (36-48 months)

Then, allowable IDC shall be as follows.

In Option-i (i.e. Existing approach): Allowable IDC: Rs. X + [Y*(4/12)]

In Option-ii (i.e. Proposed approach): Allowable IDC: Rs. (X+Y) *[(36+4)/48]

Submissions/Suggestions by POWERGRID

It has always been the endeavor of POWERGRID to follow a prudent fund phasing practice wherein funding in the projects are closely linked to progress of the project and in case of delays, most of the payments are done at the later stages of the construction period in order to reduce IDC incurred towards the project. Further, generally at the initial stages of the projects, funding is done mostly from internal resources only. Through

such best practices, POWERGRID ensures a minimum increase in IDC in project costs, even if it is delayed for any reason.

However, as discussed in Approach paper, in spite of this, under existing approach (i.e., under Option 1 of the Approach paper) disproportionate IDC is deducted even when late infusion of funds in delayed project has minimized overall increase in project cost. The same is not desirable. Proposed Option 2 is rational as it ensures deduction of IDC corresponding to the delay not condoned without unduly penalizing utilities despite their efforts to reduce IDC. Further we feel that after adopting Option 2, Option 3 may not be required as it may end up resulting in increased complexities in the process.

POWERGRID Suggestion: *Based on above discussion, it is proposed that*

- *Existing Approach i.e Approach 1 may be discontinued.*
- *Proposed Approach 2 wherein proportionate IDC is allowed on the basis of pro rate deduction of IDC worked out till actual COD may be adopted as it is rational to all Stakeholders.*
- *Proposed Approach 3 may not be required as it may result in additional complexities.*

• *Para 4.4.2 Treatment of Liquidated Damages*

The Approach paper discusses that the treatment of liquidated damages (LD) while determining capital cost of a project is to be done as per the methodology provided in APTEL Judgment in Appeal no. 72 of 2010. However, difficulty is being faced by CERC in ascertaining the treatment of LD by the generating stations and the transmission licensees and there is ambiguity in the details of LD being adjusted in the tariff forms, due to which there may be chances of double deduction.

Alternatives proposed in Approach Paper

In view of the above, comments and suggestions are sought from stakeholders on necessary changes in tariff forms and regulations, if any, to provide further clarity on the adjustment of LD.

Submissions/Suggestions by POWERGRID

POWERGRID agrees with the views expressed in Approach paper with regard to the treatment of Liquidated Damages in line with the specific approach laid down in Judgment by APTEL in Appeal No. 72 of 2010. POWERGRID follows the same approach in its tariff petitions for the treatment of LD.

Here we would like to highlight that LD to be levied on the Vendors/Contractors is generally determined at a later stage of the project and the same is adjusted in subsequent payments to vendors/contractors. After adjustment of LD, net amount gets capitalised in the books of accounts. However, in cases where deduction is made by CERC in COD cost/AddCap cost on account IDC/IEDC for FYs prior to LD adjustment, appropriate adjustments are required to be made in Capital cost obtained from Books of accounts to match it with CERC orders.

Presently there is no standard format prescribed to show this adjustment in tariff forms. This sometimes results in ambiguity and confusion to CERC while ascertaining LD treatment and in past it has led to double deduction on account of LD for some assets. One such instant of double deduction was regarding "400 kV D/C (Quad) Lara STPS-I-Champa Line along with associated bays at Champa Pooling Station" wherein POWERGRID had to file Review Petition 19/RP/2021 against order in petition 312/TT/2020 to get double deduction on account of LD reversed.

POWERGRID Suggestion: *Based on above discussion, we support CERC's view that the additional capitalisation forms need to be tweaked so that LD information is submitted along with the tariff petition. Accordingly, CERC is requested to notify a separate disclosure form for the Liquidated Damages along with the tariff formats for proper representation of LD amount.*

- ## *Para 4.5 Price Variation*

The Approach paper discusses that due to delay in commissioning of projects not only IDC and IEDC increases, but it may also result in increase in the hard cost in case the contract provides for cost escalation beyond SCOD. If the impact corresponding to such a delay is disallowed for the delay not condoned, it appears logical to extend the same treatment to price variation.

Alternatives proposed in Approach Paper

The Paper proposes the following and invites comments and suggestions from the stakeholders.

a. *The utilities may be mandated to submit the statutory auditor certificate along with the petition duly certifying the price variation corresponding to delay and the same may be allowed on pro-rata basis corresponding to the delay condoned.*
b. *A separate form may also be specified to submit the relevant information pertaining to price variation.*

Submissions/Suggestions by POWERGRID

POWERGRID deals with Price Variation in its EPC contracts strictly as per the contractual provisions, which are aligned to relevant policy/guidelines issued by concerned agencies of Government of India from time to time. All factors affecting PV are taken care of in our contracts, and in case of delay on part of the contractor, PV is restricted to the date prior to SCOD or actual PV, whichever is lower. For illustration following is the excerpt from one of the standard EPC contracts awarded by POWERGRID:

> "a. *For the purpose of Price Adjustment on ex works price components of the equipment, the date of shipment for Goods shall mean scheduled date of shipment, or actual date of shipment, whichever is earlier. …….*
>
> *No price increase shall be allowed beyond the original delivery dates unless specifically stated in the Time Extension letter, if any issues by the Employer. The Employer will, however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delivery of goods beyond the original delivery dated. Therefore, in case of delivery of Goods beyond the original delivery dated, the liability of the Employer shall be limited to the lower of the price adjustment amount which may work out either on schedule date or actual date of dispatch of Goods."*

Through such clauses, POWERGRID restricts PV claims of contractors to the lower of the price adjustment amount which may work out either on schedule date or actual date of dispatch of Goods. In very few cases, POWERGRID revise supply schedule beyond SCOD, which is on account of force majeure events and additional PV, if any, over and above the PV amount on schedule date may be allowed. However, the same happens under conditions such as force majeure which are generally considered after prudence check.

POWERGRID Suggestion: *Based on above discussion, we are of the view that the PV impact for the period of delay not condoned is very minimal and to capture the same for restriction in tariff world be cumbersome and increase complexity of tariff determination without commensurate benefit. Therefore, the existing approach of treatment for price variation may be continued.*

• *Para 4.6 Renovation and Modernisation*

The Approach Paper discusses the provisions related to renovation & modernisation in the existing Tariff Regulations.

Alternatives proposed in Approach Paper

Comments and suggestions are sought from stakeholders on continuation of the existing provisions and on the above suggestion of continuing with Special Allowance, if opted at the beginning of the tariff period for the rest of the tariff period.

Submissions/Suggestions by POWERGRID

1) Renovation and Modernization (R&M) involves an overhaul of major components of a system. It is a long process involving preparation of Detailed Project Report that includes identification of specific parts to be replaced/repaired, assessing cost involved in R&M, cost-benefit analysis, schedule of completion etc.

2) Prolonged use of existing depreciated assets is beneficial to beneficiaries due to lower tariffs and therefore use of such assets beyond useful life is to be promoted. POWERGRID through its best practices and AddCap wherever required (after due approvals) have been continuously extending life of its assets beyond their useful life. However, regarding the existing proviso of R&M, the same may not be relevant to Transmission due to the following:

   a. Transmission is uniquely placed in comparison with Generation. While generation projects are distinctively identifiable as all assets/plants or units under the project are located at a single location and having one commissioning date. In comparison, Transmission as a project usually involves multiple assets comprising one or more transmission lines spread over different Geography/States, Voltage levels along with green or brown field Substations. These Substation can be of different technologies viz., GIS, AIS or Hybrid. Being typical linear infrastructure projects, different assets under a project have different commercial date of operations.

   b. Depending upon transmission planning and system requirements, usually an existing Substation expands progressively over time with augmentation of ICTs, Reactors, Bay etc. under different projects. Over time in the same S/s one asset may be close to its useful life while another may be newly commissioned. E.g. Original assets under Vizag Substation have already completed their useful life, however, under different projects, multiple elements were commissioned progressively such that some element have its useful life till 2042.

c. With time, multiple technology may be deployed in the same S/s under new projects. E.g. An AIS substation may have a GIS extension, or a 400/220 kV S/s may be upgraded to a 765/400 kV S/s over time. Thus, the nature of Substation and its equipment also changes over time.

d. In Transmission, under approved Upgradation and System strengthening schemes, major Substation equipment like ICTs/Reactors are being upgraded/replaced to higher levels based on grid conditions and planning consideration. LILO/ Reconductoring is also being done in existing lines. Thus, before its useful life transmission assets under a project may undergo multiple changes and majority of major upgradation of Transmission assets are undertaken as part of new projects as directed by System Planners with approvals from agencies like RPCs, Government of India etc.

e. Further, for Substation equipment other than ICTs/Reactors, with time and improvement in technology, supplier changes their line of production of similar nature of equipment or totally stops the production of equipment and switch over to different type of equipment. It is seen that after 15/20 years, some of the manufacturers/suppliers/OEMs have also closed their establishments. This obsolescence of product and non-availability of spares/services, which is beyond the control of Transmission licensee, have forced them to go for replacement of problematic/unreliable equipment for smooth and reliable operation of the grid. Such expenditures are usually covered in routine O&M expenses or approved AddCaps.

f. In Transmission System, generally after the replacement of obsolete/defective/problematic equipment which is generally in range of 10-20% only, balance old assets continue to remain in service even after 25/35 years of useful life.

POWERGRID Suggestion: *Based on above discussion, we are of the view that the provisions of R&M may not be made applicable for Transmission and any Capital expenditure after completion of 20 years may be allowed to be met through a Special Allowance on a 'per km'/ 'per MVA' / per bay basis similar to component wise normative O&M.*

In addition, AddCap for HVDC & FACTS Systems may be allowed as per the prevailing practice of allowing O&M addcap after prudence check. Further, outage availed to carry out any refurbishment/ replacement works under special allowance may be considered as deemed available.

• *Para 4.7 Initial Spares*

The Approach Paper discusses that there are eleven (11) separate categories and sub-categories for Transmission pertaining to ceiling norms for initial spares and the same needs to be optimised.

Alternatives proposed in Approach Paper

A single norm can be considered for each of the following classes of transmission assets:

1. *Transmission Lines, including HVDC lines*
2. *Substations (including HVDC S/s)*
3. *Dynamic Reactive Compensation Devices*
4. *Communication Systems*
5. *Underground cable*

Comments and suggestions are sought from stakeholders on the above proposed approach and alternative options to standardize and simplify the norms for initial spares.

Submissions/Suggestions by POWERGRID

1) We agree with the view expressed that the number of categories may be reduced. However, it may be pertinent to note that GIS equipment being design & vendor specific require higher level of inventories. Further, in the case of GIS Substation, upgradation of the same is carried out by the OEMs only where difficulties have been faced in getting the spares for the earlier designed systems.

   With regard to Green field and Brown field S/s, it is to be mentioned that most of the new transmission projects including all Green field Substation projects are being awarded under the TBCB mode only. Only some augmentation works, i.e. Brownfield projects are being considered under the RTM mode. Therefore, in the next tariff block, mostly Brown field projects will come under RTM.

POWERGRID Suggestion: *Based on above discussion, it is proposed that considering separate spare requirement for AIS & GIS Substation, existing practice of separate norms for both categories may be continued . Further, regrading one norms for both Green field and Brown field sub-stations , it is requested that common norm for both may be specified in line with the spare requirement of brownfield assets only. Further, HVDC S/s may also be clubbed with AIS S/s.*

2) Regarding separate norms for High Voltage Underground cable, it is submitted that due to severe RoW issues and increasing urbanization, increasing number of projects are being planned considering a portion or complete transmission line with HV underground cables. Presently, there is no norm specified for Initial Spares for HV Underground Cable Systems in the CERC Tariff Regulations, 2019 and therefore we agree with the approach paper regarding requirement of separate norms. While deciding norms the following may be considered

   - High Voltage Underground cable being an imported item and supplied by a selected few foreign manufacturer, the lead time of procurement here is much higher than any onshore equipment. Hence it is necessary to ensure an adequate supply of spares to take care of any contingency so that the system does not remain idle due to unavailability of spares.

   - In CERC Tariff Regulations 2019, for first time new technology equipment i.e., Static Synchronous Compensator, 6% initial spare is allowed. Thus, in the past CERC has provided higher spare norms for new technology equipment.

POWERGRID Suggestion: *Considering that there is no historical data for HV underground cable except "±320kV VSC based 2000 MW Pugalur (HVDC) - North Trichur HVDC(Kerala) HVDC link" project, it would be difficult to come to a ceiling initial spare norm based on historical data. However, for system reliability, initial spare requirement is mandatory for HV cables also and therefore it is prayed that in line with said HVDC project, initial spare with ceiling limit of 3% may be allowed for High Voltage Underground Cables.*

- ## *Para 4.8 Controllable and Un-Controllable Factors*

The Approach paper highlights the fact that delay on account of land acquisition was included in the list of uncontrollable factors in CERC Tariff Regulations, 2019 as the issue had become a major deterrent in timely commissioning of projects. In a similar vein, the paper acknowledges that delays on account of getting forest clearances have proved to be beyond the control of transmission licensees.

Alternatives proposed in Approach Paper

In view of above, the Paper proposes that delays on account of forest clearances can also be considered for inclusion as uncontrollable factor provided that such delays are not attributable to the generating company or the transmission licensee.

Comments and suggestions are sought from stakeholders on continued inclusion of delay on account of land acquisition as an uncontrollable factor and on the further inclusion of delay on account of forest clearances as an uncontrollable factor.

Submissions/Suggestions by POWERGRID

The acquisition of land for new projects continues to be a mammoth task and invariably becomes a major factor which stretches the commissioning of projects well beyond SCOD. Hence, **the continued inclusion of delay on account of land acquisition as an uncontrollable factor is a must** and the views in the Approach paper in this regard are well appreciated.

The Approach Paper rightly recognizes that delay in obtaining forest clearance is a major factor contributing to time and cost over-runs in projects and POWERGRID supports the proposal to identify the same as an uncontrollable factor. It is highlighted that getting statutory clearances from Railways is another arduous task which consumes considerable time and effort. In some cases, the consequences of delay in getting Forest / railway clearances have been so severe that the commissioning of projects have been pushed back by years. Moreover, POWERGRID wishes to stress upon the fact that obtaining shutdown in case of power line crossings in new projects is also a major area of concern during execution of projects. There are technical constraints in obtaining shutdown of lines associated with Renewable Energy (RE) Generating Stations, which are 'Must-Run' in nature, and high capacity thermal plants, which are required to operate at technical minimum. This usually leads to non-issuance of timely shutdown by RLDCs (despite the shutdowns being approved in OCC meetings in some cases) and ultimately prevents commissioning of projects within scheduled time frame. Also, it is emphasized that abnormal amount of time is required for obtaining shutdown of power lines owned by State Discoms/Distribution Utilities, which in turn delays the projects. Though it is conceded that such delays are admitted by CERC on case to case basis, a regulatory provision supporting the same would make filing petitions less cumbersome for licensees.

POWERGRID Suggestion: *Based on above discussion, POWERGRID supports that the land acquisition is required to be continued as an uncontrollable factor. Further, we also support and request that the delay in obtaining forest clearance may be considered as an uncontrollable factor. Further, it is proposed that delays in obtaining statutory clearances like Railway Clearance, Highway Clearance, delay in grant of Shutdowns by RPCs/RLDCs/SLDCs, including may also be covered under uncontrollable factor as they are beyond the control of Transmission licensees.*

• *Para 4.9: Differential Norms – Servicing Impact of Delay*

The Approach Paper discusses the need of rigorous pursuit and involvement of Senior management for obtaining approvals from statutory authorities and explores requirement of provisions of deduction in capital cost or reduced rate of RoE for such condoned delay period, if required.

Alternatives proposed in Approach Paper

1. *To encourage rigorous pursuit of such approvals from statutory authorities, even if delay beyond SCOD on account of clearances and approvals that are condoned, some part of the cost impact (Say 20%) corresponding to the delay condoned may be disallowed.*

2. *Alternatively, RoE corresponding to cost and time overruns allowed over and above project cost as per investment approval may be allowed at the weighted average rate of interest on loans instead of a fixed RoE.*

3. *The current mechanism of treating time overrun may be continued, considering that utilities are automatically disincentivised if the project gets delayed.*

Comments and suggestions are sought from stakeholders on the above so that developers may make more efforts to control the delays.

Submissions/Suggestions by POWERGRID

1) Transmission projects are linear infrastructure projects that span across different geographies utilizing land owned by public/private/ State/Forest. Some of the project gets delayed due to delay in obtaining statutory clearances like forest clearance for transmission lines, acquisition of land for sub-stations, acquiring right of way for transmission lines, Law and Order issues, obtaining other clearances such as power line and railway crossings etc. which falls under the definition of Force Majeure events as per CERC Tariff Regulations and are beyond the control of the POWERGRID. Despite challenges, POWERGRID implements most of the transmission projects/ elements within specified timeline by adopting best utility practices, project management, prudence and commitment.

   POWERGIRD gets actively involved with the authorities at Local, State and Central level to resolve required clearances in a timely manner. Further, many steps have been taken in the past by POWERGRID in consultation with concerned Government departments, Ministries Infrastructure developers to improve the system, timely review , escalation and resolution of the issue.

Regarding Forest proposals, it is submitted that POWERGRID as a utility takes all measures to submit complete proposals in line with the Ministry of Environment, Forests and Climate Change (MoEFCC)/ State Specific requirements. Wherever required POWERGRID takes the help of MoP and different Ministries, State Govts., various levels of Central govt. to minimize delay in forest approvals. As and when required, specific issues faced in expediting forest clearance are also brought to the notice of MoP e.g., for bringing changes in the PARIVESH portal for expediting forest proposals including notification of Standard Checklist required for submission of forest proposals by MoEFCC. MoP has taken up these issues with MoEFCC .

Senior management of POWERGRID also participates in Fortnightly Regional Coordination Meeting (FRCM) on Linear Project conducted by MoEFCC, wherein all heads of Integrated Regional Offices (IROs) of the Ministry meet with all User Agencies relating to forest and wildlife clearances in respect of linear projects. In these meetings POWERGRID Senior management takes up its issues for timely resolution.

Further, if required matters where delay is attributed to factors outside the control of POWERGRID are also put up for resolution in PRAGATI (Pro-Active Governance and Timely Implementation) which is a three-tier platform (PMO, Union Government Secretaries, and Chief Secretaries of the States) to inter-alia monitor/review projects and to resolve issues under the chairmanship of Hon'ble Prime Minister.

POWERGRID Suggestion: *Based on above discussion, it may be noted that POWERGRID and its Senior management has always been proactively and rigorously pursuing the statutory authorities for getting clearances and approvals at the earliest and takes all necessary actions at highest level possible to reduce delay in project execution.*

2) Further, it is to mention the delays or inactive pursual of the authorities for the clearances is never in favour of POWERGRID's interest as it results in deferred cash flow and reduction in envisaged return to the Company. Therefore, POWERGRID always does its best to minimise the delay. For delayed projects, regarding proposed alternatives in Approach paper, following is submitted:

   - Under Alternative 1, disallowing some part of the cost impact corresponding to the delay condoned will lead to an additional penalty apart from already reduced IRR due to extended timelines. A delay of 1 year even condoned reduces Effective RoE to 11.99% from 12.8 % when there is no delay. Detailed calculation of the same is provided in suggestion for para 4.16.

- Similarly, Under Alternative 2, allowing RoE at the rate of weighted average rate of interest on loans for the capital cost corresponding to allowed cost and time will further reduce IRR (returns) over already reduced IRR. The reduced RoE will lead to an additional penalty apart from already reduced IRR due to extended timelines.
- Further, in cases where delay is condoned but there is a mismatch with upstream/downstream network, then transmission licensees already have to pay charges for mismatch period which can be considerably high at times.
- Efforts put in by POWERGRID has to undergo the litmus test of Prudence check by CERC and even in case of best effort by POWERGRID, sometimes delays are disallowed due to lack of proper documentations.

POWERGRID Suggestion: *Based on above discussion, it is requested that once the delay has been condoned, project should not be subjected to any further deduction / penalty.*

Considering that the utilities are automatically disincentivized if the project gets delayed, if any such additional penalty is imposed, it will lead to further loss to developer without any fault. Such approach may unnecessarily result in increased uncertainty and risk in the sector and will affect Investor's sentiment. ***Therefore, it is prayed to the CERC to continue with the existing approach.***

• *Para 4.11: GFA/NFA/Modified GFA Approach*

The Approach paper discusses the existing GFA approach, modified GFA approach and NFA approach and proposes that the existing GFA approach, being a balanced approach, may be continued.

Alternatives proposed in Approach Paper

Increasing the Investors' confidence by ensuring assured returns is important, and further considering the recent spikes in power tariffs in power exchanges indicating shortage of power availability, investment in Power sector needs a boost, and therefore the existing GFA approach, being a balanced approach, may be continued. However, comments/ suggestions are invited on alternate approaches, i.e., GFA/ NFA/ Modified GFA approach.

Submissions/Suggestions by POWERGRID

1) The Approach Paper rightly recognizes that the GFA Approach incentivizes the Equity investors to efficiently operate and maintain the infrastructure even after the plant is fully depreciated and it facilitates generation of internal resources required for further capacity additions.

2) Further, GFA approach is suitable for RoE approach which is in vogue whereas NFA approach is suitable for ROCE approach. Regarding ROCE approach detailed comment of POWERGRID at reply to para 4.15 discussing why ROCE approach should not be adopted.

3) Considering current state of Indian power sector which has to grow manifold in the coming years to support the economic development of our country and RE integeration, GFA approach should be continued. Therefore, increasing the Investors' confidence is a necessity in such case and providing regulatory certainty will be a key factor.

POWERGRID Suggestion: *Based on above discussion, POWERGRID supports the views expressed in Approach paper that increasing Investor's confidence by ensuring assured returns is important and further considering investment requirement in Power sector, existing* ***GFA approach, being a balanced approach, may be continued****.*

- ## *Para 4.12.1: Segregation of Normative Expenses*

The Approach paper discusses that difficulty is being faced in allowing one time impact on issues affecting one of the components of O&M Expenses (Employee, A&G and R&M Expense) especially Pay/Wage Revision impact, due to absence of segregation of baseline expenses forming part of O&M expenses.

Alternatives proposed in Approach Paper

O&M norms may be specified under the following two categories.

1. *Employee Expenses*
2. *Other O&M Expenses comprise Repair and Maintenance and Administrative and General Expenses*

However, ……. the above suggestion may also be seen from the perspective that these expenses have historically been allowed as one expense, and any change in the methodology as suggested above may result in unnecessary complications.

Alternatively, to give effect to the impact of pay/wage revision, 50% of the actual wage revision can be allowed on a normative basis.

Comments and suggestions are sought from stakeholders on the above suggestions and alternatives, if any.

Submissions/Suggestions by POWERGRID

1) Regarding proposal that O&M norms may be specified under two categories, we agree with the observation made that O&M expenses have historically been allowed as one expense, and any change in the methodology as suggested above may result in unnecessary complications. If these two categories are to be specified, then the same has to be done for all configurations for which separate O&M rates are notified.

   Further, presently only one escalation factor for yearly increase in O&M rates is provided. However, employee cost escalates due to increase in DA, annual increment and promotion but other expenses, mainly A&G and repair and maintenance, spares etc. may escalate at different rates. Thus, in the proposed case two different escalation rates has to be specified. Such as approach will be regressive in nature and instead of desired simplification, it will result in unnecessary complications.

   POWERGRID Suggestion: *Based on above discussion, we would urge CERC to* ***continue with the existing approach of allowing the O&M expenses as per norms.***

2) **Regarding wage revision impact**, the implementation of wage/pay revision and quantum of increase is beyond the control of the PSUs and are governed as per the government policies. The Government of India through Department of Public Enterprises (DPE) Office Memorandum dated 03.08.2017 provided revision of pay with effect from 01.01.2017 for the Central Public Sector Enterprises.

   In keeping with the above Guidelines, the Ministry of Power (being the administrative Ministry for POWERGRD) issued a **Presidential Directive** vide Letter dated 10.05.2018 and the POWERGRID's Board accorded approval for revision of Pay and Allowances with effect from 01.01.2017.

   The aforementioned Guidelines and Presidential Directive were compulsorily to be implemented by POWERGRID. Therefore, such implementation of pay revision is in nature of change of law event for POWERGRID and impact related to such change of law event needs to be considered.

   The proposal to allow 50% of the actual wage revision on a normative basis shall essentially mean that the remaining 50% has to be met through the existing norms or from the profit of the company. <u>As optimizing O&M expenses beyond a level is not possible, this will ultimately result in loss of 50 % wage revision impact to POWERGRID. Wage revision is a Change in Law event as and when the decision of a pay revision is finalized and therefore its impact should be allowed as pass through item.</u>

POWERGRID Suggestion: *Regarding impact of pay revision, following is proposed:*

- ***Regulations should provide for pass through of Wage revision impact*** *as it is a Change in Law event in the subsequent year as and when the decision of a pay revision is finalized*
- *Actual Pay revision impact may not be compared with normative O&M charges allowed for same control period or FY*
- *Appropriate Carrying cost should be allowed on Wage revision impact.*

3) **Further, it is to mention that Performance Related Pay (PRP),** which is an essential part of employee compensation package, is not being considered while formulating the O&M norms. This has already resulted in the non-recovery of approx. Rs 1600 Crs of PRP amount in the last 5 years. Regarding PRP, it is submitted that it is an integral part of basic wage structure as per DPE guidelines and therefore, the same may be considered as part of O&M expenses while formulating O&M norms for new block and following is submitted.

Inclusion of Performance Related Pay

a) Presently PRP is payable to employees of POWERGRID as per DPE guidelines and Presidential Directive as discussed above for pay revision of Board level and below Board level executives of CPSEs, as a part of pay structure since pay revision in 2007 and subsequent revision in 2017. Further, PRP is also part of the wage agreement for the non-executives.

b) The PRP scheme was formulated as a variable pay component linking the payment to the organization, team as well as individual performance.

c) In the report of the 2nd Pay Revision Committee, PRP was envisaged as a variable pay and PRP was made an integral part of overall compensation package.

d) The 3rd PRC report, published in Gazette of 09th June 2016 (Page No. 79-84, Para 3.17) has envisaged the following objectives behind allowing payment of PRP to the employees of CPSEs: -

   i. Allowing the PRP for better team performance will also build a competitive environment within the Company and motivation to excel as a team.

   ii. To equip the CPSEs to compete in the emerging domestic and global economic scenario.

iii. Inculcating performance oriented culture across the organization.

iv. The PRP gives emphasis to the team's performance to inculcate a team culture and achieve desired productivity levels of CPSEs.

v. The PRC viewed that PRP for team performance is a win-win situation, both for individual executives and the CPSEs.

e) The objectives behind allowing PRP is essentially to improve competitiveness, team culture and to raise the CPSEs to global standards. It also opined that the present PRP mechanism is beneficial for the firm as well as the employees.

f) The exact amount of PRP payable to an individual employee is calculated as per the methodology given in DPE circular No. W-02/0028/2017-DPE (WC)-GL-XIII/17, Annexure-IV dated 03rd August, 2017, which envisaged the following points:-

- Rating of MoU entered between POWERGRID and Ministry of Power for the corresponding year. MoU is a performance measuring tool containing no. of performance parameters along with weightages assigned to each parameter.
- Profitability of the Company during the corresponding year.
- Incremental profit of the Corporation in comparison to previous year.
- Performance of the Regions in achievements of the company Targets.
- Performance of the Individuals in achievements of the company Targets.

g) In DPE memorandum dt 03.08.2017 in respect of Revision of Pay w.e.f 01.01.2017, it is clearly stated that the revised compensation structure is inclusive of PRP [Annex II(b) & (c) of the OM]. Moreover, due importance is given to PRP in the revised structure to ensure better team performance and to build a competitive environment within the company. This clearly shows a shift in philosophy and calculation of PRP from the earlier pay revisions and their guidelines where for revision of Pay w.e.f 01.01.2007, PRP was envisaged as a component directly linked to the profits of the CPSE [Annex III, (i) of the OM].

h) From the above, it is clear that PRP is actually an integral and variable part of compensation package of the employees. The PRP scheme was formulated as a variable pay component linking the payment to the organization, team as well as individual performance. PRP is based on the overall performance of the organization as measured by its MoU rating as well as appraisal ratings of individual employees. Therefore, the ambit of PRP is much larger and is not akin to a productivity-linked incentive scheme which provides for payment linked to physical parameters such as generation, availability, etc. The PRP as a variable pay component is intended to link the overall employee remuneration to

performance as opposed to fixed pay entitlements which are independent of performance.

It may also be noted, from the calculation method of PRP, that there may be situations where the company has earned less/no profits, but PRP has to be paid to the employees under the present norms of DPE.

If the PRP is not added to the O&M expenses, it will affect the profitability of the company by sizable margin and is not in tandem with the philosophy in which PRP is envisaged and impacts the desired return on equity as provided in the provision of the regulations.

***POWERGRID Suggestion: Regarding Performance Related Pay**, following is proposed:*

- *Performance Related Pay (PRP) may be considered as part of employee cost in O&M expenditure for FY 2018-19 to FY 2022-23 while arriving at the normative O&M norms for 2024-29.*

• *Para 4.12.2: Norms for HVDC Stations*

The Approach paper discusses the need for uniform rates for HVDC Stations. Presently specific O&M norms for some HVDC schemes have been specified and for the rest of the schemes, formulation of normative O&M expenses have been specified linking it with similar nature schemes.

Alternatives proposed in Approach Paper

It is observed that there is a need to simplify the same and therefore one norm for all HVDC schemes in terms of per MW considering the actual expenses incurred in the past may be specified.

Comments and suggestions are sought from stakeholders on the above suggestions and alternatives, if any.

Submissions/Suggestions by POWERGRID

1) In CERC Tariff Regulations, 2019, separate O&M norms for existing Bipole HVDC Stations are specified based on their past actual expenses. For new HVDC Stations, there was no distinctive way to determine O&M expenses and hence, it was decided to formulate the O&M expenses by linking it to similar natured stations.

2) For Back to Back Scheme, same rate for all HVDC Stations except Gazuwaka is already being notified.

3) With increasing number of HVDC bi-pole stations, specifying separate norms for each Stations is only increasing the complexity in the process. It will be a cumbersome task for the CERC to work out O&M norms for all Bipole HVDC schemes on a case-to-case basis.

4) Formulating O&M norms in case of HVAC substations has been a success in getting common norms for assets across the country. With sufficient number of HVDC Stations and experience in O&M of HVDC Stations, similar methodology of computation of O&M Expenses may be taken up by the CERC in case of HVDC Schemes.

POWERGRID Suggestion: *Based on above discussion, we agree and support the views presented in Approach paper regarding the notification of one norm for all HVDC stations in terms of per MW considering the actual expenses incurred in the past.* ***Further, for the bi-pole system, MW capacity for each terminal of bi-pole may be accounted separately****.*

- ## *Para 4.12.3: O&M Norms for Special Cases*

The Approach paper discusses the need of separate O&M norms in the North Eastern and hilly areas of India as these projects entails an additional cost for the upkeep of the transmission systems.

Alternatives proposed in Approach Paper

Comments and suggestions are sought from stakeholders on whether additional O&M expenses can be given for transmission assets being operated in the North Eastern and Hilly Regions and the manner in which such additional costs can be considered.

Submissions/Suggestions by POWERGRID

1) Depending upon age, technology, geography, tropology and other factors, O&M expenses generally vary from region-to-region, Project to project etc. We agree with the Approach paper that the O&M expenses towards upkeep of Transmission System in the North-Eastern region and other hilly regions entails additional costs due to logistical challenges as well as poor infrastructure growth of the region. However, the same may also be true for certain other specific geography like it has been observed

that more O&M is required in Substations situated near the Coasts. Further, even in hills O&M requirement in snow bound areas would be substantially higher than other hilly regions.

2) POWERGRID would like to highlight that we operate and maintain a diverse network across the country and often operations and maintenance work are managed on a regional or overall basis instead of project-wise. The existing system of allowing O&M Expenses based on common norms of circuit kms, transformation capacity and number of bays has worked well for POWERGRID and stakeholders, as it allows normalization of expenses across the country and beneficiaries.

3) POWERGRID has many transmission lines that may be passing through both hills and plain areas. Segregated O&M expense for hilly and plain portion for each line may be required to specify sperate norms as discussed which may turn out to be a complex task. Further, it may not be best approach to consider such lines either as completely Hilly or completely Plain as it will result in higher and lower O&M norms from actual respectively. Further it may unintentionally lead to increase in the complexity and step backwards from a unified approach undermining years of work towards streamlining the process of progressive steps taken in past to simplify the O&M expenses norms (Normative benchmarks set in 2004-2009 MYT).

POWERGRID Suggestion: *Based on above discussion, POWERGRID is of the opinion that* ***uniformity and present approach of single country wise rate for a given configuration is best and may be continued****. Specifying region wise rates may result in complexity and may make the process regressive in nature.*

We propose that instead of devising two different norms of O&M Expenses for plain and hilly areas, present approach may be continued. Regarding specific difficulties faced by some single project RTM companies, separate rates or an additional factor over single notified rates may be provided.

- ***Para 4.12.4: Inclusion of Capital Spares***

The Approach paper discusses that presently Capital Spares are being allowed on an actual basis and Initial Spares and O&M Spares are being allowed on normative basis. This leads to considerable effort to map these expenses separately. Further, the expenses for capital spares are non-recurring and sporadic, therefore, benchmarking them can be challenging.

Alternatives proposed in Approach Paper

If the same (Capital spare) can be projected with some degree of predictability, the same may be allowed on a normative basis along with O&M expenses. Alternatively, instead of including all such capital spares as part of normative O&M expenses, recurring and low value spares below Rs. 20 lakh may be made part of normative O&M expenses, while for capital spares with a value in excess of Rs. 20 lakh, utilities may submit the same on a case to case basis for reimbursement with appropriate justification for the Commission's consideration.

Comments and suggestions are sought from stakeholders on the above suggested approach and alternatives, if any, to streamline the approval process for spares.

Submissions/Suggestions by POWERGRID

Capital spares expense are non-recurring and sporadic. From actual usage purpose there is no difference between Initial Spare, Capital Spares, Maintenance Spares as all are inventories used in O&M but as per accounting requirement, the same had to be booked separately. Considerable effort is required to map these expenses and difficulty is being faced.

In the present tariff block, spares of value >5 lakh have been considered as capital spares by POWERGRID as per IND AS policy. Capital Spares were not required separately before CERC Tariff Regulations, 2019, therefore the record of the same for past periods may not have been maintained separately.

Considering above, we are of the view that the analysis of Capital Spares for a longer duration, say 15-20 years may not give any useful inference as right set of data may not be available.

POWERGRID Suggestion: *Based on above discussion, POWERGRID supports that* ***the Capital Spare may not be benchmarked****.*

We agree with the proposal that recurring and low value ***spares below Rs. 20 lakh may be made part of normative O&M expenses****, while for capital spares with a value in excess of Rs. 20 lakhs, utilities may submit a separate petition for reimbursement of the same.*

Further, if the same is to be implemented, POWERGRID may be given opportunity to furnish the details of spares between value 5 lakh to 20 lakh to the CERC as the same has to be considered as part of O&M norms to be notified.

- ***Para 4.12.5: Impact on account of Change in Law and Taxes***

The Approach paper discusses that presently there are no provisions with regard to allowing additional expenses on account of any change in law. However, including the same may lead to recurring impacts, and claims that may result in regulatory overburden.

Alternatives proposed in Approach Paper

Comments and suggestions are therefore sought from stakeholders on whether to include any provisions with regard to allowing impact of a change in law on O&M expenses.

Submissions/Suggestions by POWERGRID

1) The CERC Tariff Regulations 2019 define “Change in Law” and “Change in taxes” but does not provide for any regulatory provision to claim additional O&M expenses on the same.

2) There are certain expenses that may be prone to change in law such as GST rate for different services, increase in employee expenses due to pay revisions, any additional levies/duties, etc. imposed by the local authorities/government. These expenses may be substantial in some cases. As on date, the utilities don’t have any clarity around the changes that may occur in this regard. Hence, it would be difficult to incorporate the same in base norms to be notified for the control period. Further, there is ambiguity in terms of prospective timeline in which these changes may occur.

3) Further, recently notified CEA cybersecurity guidelines require annual audit of OT systems, with mandate for regular patching and firmware upgrade to address vulnerabilities. CEA is in process to issue regulations on cybersecurity which are likely to propose tighter life-cycle cybersecurity vulnerability management requirements. These requirements are expected to lead to phasing out of legacy equipment for which security patches and OEM support are no longer available. This shall lead to an increase in O&M expenditure. As CEA regulations are to be strictly complied with and constitute as a change in law event, **increased expenditure for such above compliance requirements may be allowed to recover as one time reimbursement.**

POWERGRID Suggestion: *Based on above discussion, it is proposed to provide regulatory provisions for recovery of any substantial increase in O&M cost on account of Change in law as per actuals.*

For this Regulation may specify the threshold limit for yearly impact say Rs 50 Crs or 10 % of yearly O&M charge whichever is lower, on company level can be claimed. Expenses below this limit may be continued to be considered under allowed normative O&M norms.

- ## *Para 4.13: Depreciation*

The Approach Paper observed that shorter loan duration and higher depreciation in the initial years have resulted in front loading of tariffs. Considering that nowadays loans are available for 15-18 years, the possibility of increasing the loan tenure for the computation of depreciation rates needs to be explored.

Alternatives proposed in Approach Paper

A depreciation rate may be specified considering a loan tenure of 15 years instead of the current practice of 12 years. Further, additional provisions may also be specified that allow lower rate of depreciation to be charged by the generator in the initial years if mutually agreed upon with the beneficiary(ies)

Comments and suggestions are therefore sought from stakeholders on the above proposal and any modifications required, if any.

Submissions/Suggestions by POWERGRID

1) Depreciation is a major component of the annual fixed cost and is designed so as to meet the debt service obligation of Utilities. As debt obligations has to be met in initial years, therefore higher depreciation has been allowed in initial 12 years. Under the present method for recovery of depreciation around 63% (i.e., 5.28% *12) of capital cost is recovered in initial 12 years.

2) POWERGRID supports all the steps which could bring in relief to Consumers including the proposal wherein considering that higher tenure loan may be available in market, depreciation rate may be specified considering a loan tenure of 15 years instead of the current practice of 12 years. This will provide relief to DICs in the form of reduced tariff in initial years. **However, it is proposed that the same may only be done**

prospectively i.e. only for assets whose Investment Approval is done post 31.03.2024. For existing assets and assets which are under construction stage, loans are already deployed or earmarked. The repayment terms for this debt have already been agreed with the lenders considering the cashflows as per CERC Tariff Regulations and may not be changed. A change in methodology of depreciation would impact the ability of POWERGRID to service debt. Further, POWERGRID's present debt comprises majorly privately placed bonds having tenure ranging between 10-15 years with no prepayment option.

3) If depreciation rate are specified considering a loan tenure of 15 years, a mismatch in cashflows on account of upfront reduction in depreciation rates in case of existing projects would require POWERGRID to meet debt obligations from raising additional loans and would attract additional cost. In this regard, POWERGRID requests to provide risk protection against any additional costs (such as refinancing cost, interest cost of new term loans etc.) which may arise due to the above change, and POWERGRID may please be allowed to recover such additional costs through tariff.

POWERGRID suggestion: *We welcome the proposal that the depreciation rate may be specified considering a loan tenure of 15 years instead of the current practice of 12 years. However, the same shall be applied prospectively in new tariff Regulations i.e it should be made applicable only for assets whose Investment Approval is done post 31.03.2024.*

For other assets, it is requested to continue with the existing approach of considering loan tenure as 12 years for depreciation computation. In case CERC decides to move forwards considering normative loan tenure of 15 years across all the assets, then it is requested to provide risk protection against any additional costs (such as refinancing cost, interest cost of new term loans etc.) which may arise due to the above change and POWERGRID may please be allowed to recover such additional costs through tariff.

• *Para 4.15: Return on Equity (RoE) v/s Return on Capital Employed (RoCE)*

The paper discusses RoE and RoCE approaches that can be adopted to allow a return on investments made by generating companies or transmission licensees. After discussion it has been proposed that the present system, i.e RoE approach, may be continued.

Alternatives proposed in Approach Paper

As in the past, much has been deliberated and discussed on the two approaches, and in view of the long-standing position of this Commission, the present system, or RoE approach, may be continued. Comments and suggestions are, however, sought from stakeholders on the continuation of the RoE approach.

Submissions/Suggestions by POWERGRID

We agree with the views presented in Approach paper that the present system of the RoE method may be continued considering the various bottlenecks in adopting the RoCE method. ROE approach should be continued on account of the following reasons:

- It would be difficult to follow ROCE approach due to fluctuations in the interest rates and it may not be feasible to arrive at a normative interest rate which can be applied for calculating the return on capital employed.
- A single WACC for the entire power sector may not be possible as the terms and conditions at which a company raises debt keep on changing depending upon the creditworthiness of the company.
- Further, in case of ROCE approach, the Return on Capital Employed has to be computed every year and may be complex as D/E ratio changes with time.
- Various stakeholders, especially the lenders, will also not feel secure if there is sudden change in the method of computing transmission charges.

POWERGRID Suggestion: *Based on above discussion, we support that it may not be prudent to change the approach of allowing returns on the investments made in the sector for both existing and under construction projects. Therefore, the existing approach on allowing the ROE should be continued.*

- ## *Para 4.16: Rate of Return on Equity*

The Approach Paper discusses the various factors and recent market developments which may affect Rate of RoE, need for attracting Investments and methodology to calculate rate of RoE. The rate of return should be determined based on the assessment of overall risk and the prevalent cost of capital. Further, it should lead to the generation of a reasonable surplus and attract investment for the growth of the sector. Further Forum of Regulator (FoR) recommendation on differential RoE for Generation and Transmission Business is also mentioned.

Alternatives proposed in Approach Paper

Comments and suggestions are sought from stakeholders on the following issues:

1) Review of Rate of RoE to be allowed, including that to be allowed on additional capitalisation that is carried out on account of Change in Law and Force Majeure.

2) Whether the revised rate of RoE to be made applicable to only new projects or to both existing and new projects?

3) Whether timely completion of hydro generating stations can be incentivised to attract investments?

4) Merit behind approving different Rate of RoE to thermal, hydro generation and transmission projects with further incentives for dam/reservoir based projects including PSP.

5) Merit in allowing RoE by linking the rate of return with market interest rates such as G-SEC rates/MCLR/RBI Base Rate.

For the calculation of RoE using the CAPM Model, the following may be considered:

1) Keeping in view the international approaches to regulated rates of return, the average 10-year GOI securities rate over a one-year

2) Keeping in view the international approaches, daily data on the SENSEX and BSE Power Index for the latest 5 years may be considered for equity beta estimation

3) Keeping in view the international approaches, daily data on the SENSEX and BSE Power Index for the latest 5 years may be considered for equity beta estimation

4) Comments and suggestions are sought from stakeholders on the above proposed methodology for estimation of RoE and alternative suggestions, if any.

Submissions/Suggestions by POWERGRID

In a Regulated Tariff Mechanism, the utilities are allowed to earn reasonable return on their investments as a compensation for assuming the investment related risks. It is based on the opportunity cost principle and risk premium for the investments made in the sector. The rate of Return on Equity is determined based on the assessment of overall risk and the prevalent cost of capital. Further, it should lead to a generation of reasonable surplus and attract investment for the growth of the sector. Para 5.8.4 of NEP, 2005 provides that Return on investment will need to be provided in a manner that the sector is able to attract adequate investments at par with, if not in preference to, investment opportunities in other sectors.

To ensure that it is fair to both the investors and the consumers, the return allowed should be commensurate with the returns available from alternate investment opportunities having comparable risk.

Power projects or Inter-State Transmission Lines are complex, capital intensive and require a higher gestation period of about 2 to 4 years. The equity deployment starts with land purchase & other development activities and debt is deployed only after investment approval. While interest on loan during construction period is considered as part of project cost, no ROE is allowed during the construction period which brings down the effective returns to the developer. The effective return reduces with delay in construction of the project which may be due to uncontrollable factors including challenges in RoW, topography etc. Even if delays are condoned, no return on equity deployed during the construction period is permitted, which pulls down the overall project. For a delay of 1 year, the effective rate of return reduces from 12.8 % to 11.9%. As delay increases, effective return further decreases as shown below:

S. No.	**Delay in COD**	**Effective ROE (%) ***
1.	No delay	12.80
2.	1 year	11.99
3.	1 year (Cost overrun disallowed in tariff)	Gets below 10 %

** Calculation provided at para H below*

With this background, the points raised in Approach paper is discussed below;

A. *Transmission Risk*

Execution of transmission projects face various risks during the construction period starting from land acquisition, environment, forest and other clearances, challenges related to obtaining Right of Way in varying terrain spanning across the length and breadth of the country and involving agencies across multiple states, contractor defaults, equipment delays etc. Recent experiences of stringent Environmental norms, GIB issue etc. has proven that risk of construction is increasing. Further, RoW issue is also being continuously faced during Operational phases. Considering frequent cyclones, natural calamity and climate change effect, Operational risks in transmission is also significant. The details of major disasters that has happened in last 5 years is provided below:

1. UP & Bihar Floods (2022)
2. Cyclone Asani (2022)
3. Assam Earthquake (2021)
4. Cyclone Gulab (2021)
5. Cyclone Tauktae (2021)
6. Cyclone Yaas (2021)
7. Maharashtra Floods (2021)
8. Cyclone Nisarga (2020)
9. Cyclone Nivar (2020)
10. Kerala, Assam & Hyderabad Floods (2020)
11. Karnataka & Kerala Floods (2019)
12. Cyclone Fani (2019)
13. Bihar Floods & heatwave (2019)

Increased disputes and litigations especially regarding mismatch issues and Sharing mechanism involving Generators, Discoms, Other transmission licensees, STUs etc. has posed new uncertainty and risk on recovery of transmission charges. The returns for a Transmission Licensee must be in line with risk perception and market expectations and we feel that with time construction, operation and payment risks are only increasing day by day. **Therefore, we are of the view that the existing RoE of 15.5 % should be maintained for transmission businesses.**

B. *Differential RoE*

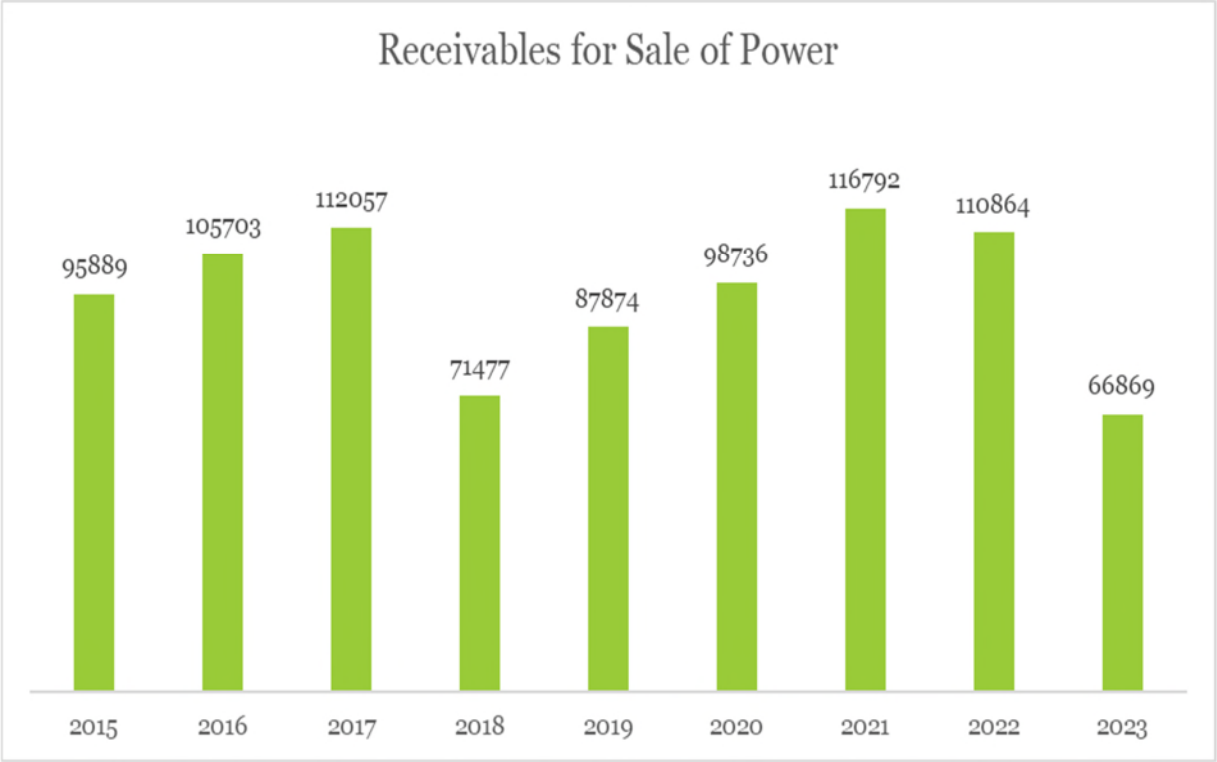
One to one comparison of risks in Generation and Transmission may not be a right approach. In line with difference in the nature of two businesses, Risk profile of Generation and Transmission projects is different. In terms of project construction, generating projects are restricted to limited area and geography, however, the transmission projects span across hundreds of kms and requires back to back clearances from statutory and local authorities, land acquisition, forest clearances,

managing local disturbances, RoW issues etc. Unavailability of land and corridor scarcity is continuously increasing the risk of executing the transmission schemes going forward. **Therefore, we feel that Construction risk in Transmission is very high in complete value chain in Power Sector compared to Generation and Distribution.**

Regarding FOR's recommendation wherein differential RoE for Generation and Transmission Businesses and reduction in RoE for Transmission Business was made in the report titled *"Analysis of Factors Impacting Retail Tariff And Measures To Address Them"* published in Apr'2021, it is mention that the subject Report does not provide any rationale or discussion for such recommendation and we feel that the same does not reflect the true risk reality. The subject report mentions about stranded Generation and the same is also discussed in Approach paper that "*the risk perception of financial institutions towards the power sector has increased due to the initiation of insolvency proceedings against these projects, forcing lending institutions to take massive haircuts. This has resulted in an increase in risk perception towards power projects, especially generation projects".* We agree that the risk perception of the power sector has increased substantially in the past, and it is not only limited to Generation companies. Many of the prominent transmission Companies like Reliance Infra, Essar Power, Essel Group, JP Group, ILFS etc. has to sell their transmission business/asset over the last 5 years.

It is to mention that, at the time of publishing of said FOR report in May'2021, the country was undergoing the impact of the COVID pandemic and power demand remained subdued due to closure of industries. Post COVID, the country witnessed a surge in power demand with peak demand surging to an all-time high leading to improved PLF for generators. In fact, there was severe generation shortage vis-à-vis power demand during year 2022 and Govt of India as well as CERC took various measures to ensure power demand is met.

Further, to address various Sector specific issues, the Ministry of Power (MoP) has come up with multiple Policy decisions, Rules, Orders such as Electricity (Late Payment Surcharge and Related Matters) Rules, 2022, Electricity (Timely Recovery of Costs due to Change in Law) Rules, 2021, Automatic pass through of the fuel and power procurement cost in tariff for ensuring the viability of the power sector etc. Through LPS Rules, MoP has bought in a Statutory Mechanism ensuring timely payment of Generating Companies. Outstanding dues has come down significantly after implementation of LPS Rules compared to pre LPS, as shown below:



These all-policies intervention by MoP has been issued focusing on Generation and has bring in much relief to them. Now Outstanding dues and mitigation methods including Regulation of Power is being monitored through PRAPTI portal and being reviewed periodically by MoP.

Thus, the recommendation made in said FoR report may not be relevant in the present context.

Further, it is suggested that the existing RoE of 15.5% should be maintained for the transmission business. However, considering the penetration of renewable generation in the grid, higher RoE may be continued for Storage type Hydro Stations

C. Transmission has no other avenues than Annual Fixed Charge (AFC) to increase revenue from Transmission Business

For Transmission, the upside revenue is capped i.e maximum at an availability of 99.75 and there are negligible avenues to earn extra revenues. In case if availability goes below 98%, AFC decreases proportionally and there is no limit to downside. Even additional Return on Equity of 0.5% for timely completion of projects which was provided in Tariff Regulations, 2014 was also discontinued in the Tariff Regulations, 2019. Return on RoE for AddCaps beyond Original Scope and after Cutoff date is also restricted to

Weighted average rate of interest. Further, in case of non-tariff incomes from sale of scrap etc. though negligible for Transmission but still has to share 50 % with beneficiaries.

Here it is to mention that Unlike Transmission, Generators have other avenues for additional revenue from Business. Hydro generators can earn additional revenues through the sale of secondary energy and additional revenue from overachievement of NAPAF, however, in case of underachievement, they are allowed to recover the total AFC. For thermal generation, they can earn additional revenue through

- Sale of unscheduled power in market, UI, sale of ancillary services,
- Efficiency gain in Controllable parameters i.e., Station Heat Rate; Secondary Fuel Oil Consumption; and Auxiliary Energy Consumption.
- Proceeds of carbon credit under Clean Development Mechanism
- Under SCED schemes, flexible operations based on GoI policy on flexibility.

Considering above, it is submitted that unlike others, Revenue in Transmission Business is limited to Regulated AFC and RoE is only source of Profit for it. **Thus, any reduction in RoE will impact Transmission more than other sector.**

D. Regulatory Certainty

Regulatory certainty is an integral part of tariff approach for attracting requisite investments into the sector. The Tariff should also reflect the changing market condition and macroeconomic parameters. As the tariff is determined on multiyear principles, it is important to maintain certainty in approach over each control period to maintain the confidence of investors and regulated entities. Any major departure in established regulatory approaches create considerable risk for regulated entities. This is particularly so for existing assets which have been set up based on the prevailing regulations and tariff principles applicable at the time of the assets being planned.

Investments in generation and transmission projects are for long duration (25-35 years) and therefore, the investment decisions are made based on the returns prevalent at the relevant times. Reduction in ROE during the life of the project would create regulatory uncertainty and make investments in the sector less attractive to the investors. ***Reduction in rates will have negative impact on the equity already invested in the existing and under construction projects. To have regulatory certainty and financial stability of investors, if in case, CERC considers to revise the RoE for transmission business, it should be done only for the assets whose Investment Approval is done post 31.03.2024 i.e for new projects/assets only.***

E. Investment Requirement in Sector

Considering the fast pace with which different sectors in the country are growing, resource allocation among different sectors is becoming very tough and competitive. Power Sector requires investment from Domestic as well as International Investors. To attract international investors the return in generation/ transmission business in India should be at par if not more than the return allowed by regulators in other countries.

The Government of India has set an ambitious target of 500 GW of renewable generation by 2030. For required energy transition to RE, we need to preserve existing assets and continued operation is to be incentivized. Reduced RoE will act as dampener and may delay essential investment in the sector. Reduction in RoE will reduce the investment by 3.33 times (as D:E ratio is 70:30). Reduction in IR by Rs. 1000 Cr will cause a fall in investment potential of the companies by Rs. 3300 Cr annually. The ability to raise capital from market by POWERGRID is limited as the current GoI shareholding is already down to 51.34%.

F. *Impact of reduction of RoE*

- ***Increase in borrowing cost***

POWERGRID is highly leveraged. Reduction in RoE would weaken its credit metrics such as Interest Coverage ratio, Debt service ratio, Debt: EBIDTA, FFO: Debt (Funds from operation to debt) which are critically viewed by the rating agencies as well as debt investors. With reduction in returns and increase in debt, all other things remaining constant, the ratio, is likely to shoot up and breach the covenant, triggering recall/renegotiation of the existing loans by lenders. Historically, POWERGRID has been able to debt finance its capex at a much cheaper rate of 7.0%-9% p.a. with a tenure of 10-15 years whereas the two public sector funding agencies viz. Power Finance Corporation and Rural Electrification Corporation offers long term loans at a rate from 10% - 12% p.a.

Existing loan portfolio of POWERGRID stands at around Rs. 1,26,000 Cr and even slight increase in debt rate will have a high additional implication on the beneficiaries as debt servicing is pass through in tariff. **The benefits of lower RoE if any (on 30% of project cost) may be partially offset by the increase in tariffs due to higher cost of debt on 70% of the project cost. Increase in cost of borrowing may significantly wipe out the benefit of lower RoE.**

- ***Insignificant benefit to end Consumers***

Forum of Regulator in its report "Analysis of Factors Impacting Retail Tariff And Measures To Address Them" as referred in approach paper has pointed that

"*The contribution of RoE on generation, transmission and distribution, in respect of 12 States were studied. It transpired that if the RoE was reduced from 15.5% to 14%, there would be reduction of 2 paisa per unit of retail tariff ".*

Thus, it is evident that **reduction of Rate of RoE has negligible impact on overall cost of power to the end consumer, but it may end up in creating adverse financial situation of Generators and Transmission Company.** Further, it is to be noted that presently Generation and Transmission projects under RTM has been acting as backbone of the entire Power System and despite being adverse market reality faced in past specially Generators going in Insolvency, RTM projects has prevented the Power Sector from collapsing.

G. *Other points to be considered.*

- RoE in CERC regulations acts as a guiding principle for SERCs. Any reduction at this stage will also impact future investment in Intra State and Distribution sectors which are in dire need of investment.
- Cashflows generated in RTM is utilised by PSUs to invest in new technologies and R&D activities required in Sector. R&D activities are essential to bring in new technologies and best practises in Sector.
- POWERGRID Substations are mostly located at remote locations away from Towns where working environment is inherently tough. Unlike Generations, Facilities like School, Hospitals etc. cannot be provided in Substations. In some cases, such locations are hardship and very tough snow filled location in J&K, Ladakh which remains inaccessible for most of the time. Some locations are situated in Insurgency affected areas. Employee morale has to be kept high. Profitability of Company is one of the major factors which makes the employee feel proud & keep them motivated.
- The current 10-year G-Sec yield is around 7.1% which is almost the same as it was at the time of the commencement of the current tariff period, i.e., April 2019.
- POWERGRID have close to 49% public shareholding. Changing the returns on the already done investments may not send right signals to existing and potential investors and would ultimately result in fall in shareholder wealth due to lower market capitalization.

POWERGRID Suggestion: *POWERGRID submit the following;*

- RoE for Transmission must be in line with risk perception and market expectations, and we feel that with time, construction and operational risks are only increasing, and there has been no reduction in risk profile in last 5 years.
- ***Construction risk in Transmission is very high in complete value chain in Power Sector compared to Generation and Distribution.***
- *The recommendation made in said FoR report may not be relevant in present changed circumstances where many initiatives to improve cash flow to Generation business etc. have been taken.*
- ***For Transmission, the upside revenue is capped i.e maximum at an availability of 99.75 % whereas there is no limit to the downside. Thus, reduction in RoE will impact Transmission more than any other sectors.***
- *Reduction in ROE during the life of the project would create regulatory uncertainty and make investments in the sector less attractive to the investors.*
- *To attract international investors the return on equity for generation/ transmission business in India should be at par if not more than the return allowed by regulators in other countries.*
- ***Reduction in RoE if any, may potentially result in higher cost of debt on 70% of the project cost.***
- *Reduction of Rate of RoE has negligible impact on overall cost of power to the end consumer, but it may end up in creating adverse financial situation of Generators and Transmission Companies.*
- ***Investments in generation and transmission projects are for a long duration (25-35 years) and therefore, the investment decisions are made based on the returns prevalent at the relevant times. Reduction in rates will have a negative impact on the equity already invested in the existing and under construction projects.***

Therefore, we are of the view that the existing RoE of 15.5 % should be maintained for transmission business for Tariff block 2024-29 also to have regulatory certainty and financial stability of investors. If in case CERC considers to revise the RoE for transmission business, it should be done only for the assets whose Investment Approval is done post 31.03.2024 i.e for new projects/assets only.

H. Review of Rate of RoE to be allowed on additional capitalisation that is carried out on account of Change in Law and Force Majeure.

- All laws of the land are dynamic in nature and with time it undergoes modifications and amendments. It is not possible to ascertain these future "change in law" events and subsequent financial impacts. At times these may lead to large investment requirements. Transmission licensees at that stage will have no option but to do the investment in accordance with the law. In case if adequate return on this investment is not provided, it will adversely impact the return of overall project. Further, in cases where investments required are very high, it may make the project financially unviable without adequate return.

- Therefore, the equity investment on account of additional capitalization due to Change in Law cannot be treated any differently from equity investment during construction of asset and should be allowed the same fair rate of return. Further, the return allowed on equity investment cannot be compared with that of debt, which is a fixed income instrument.

- Further, the lenders do not fund the entire cost and insist for deployment of equity for a portion. Since the risk borne by the equity holders and lenders is different, it is not appropriate to compensate equity component at the cost of debt.

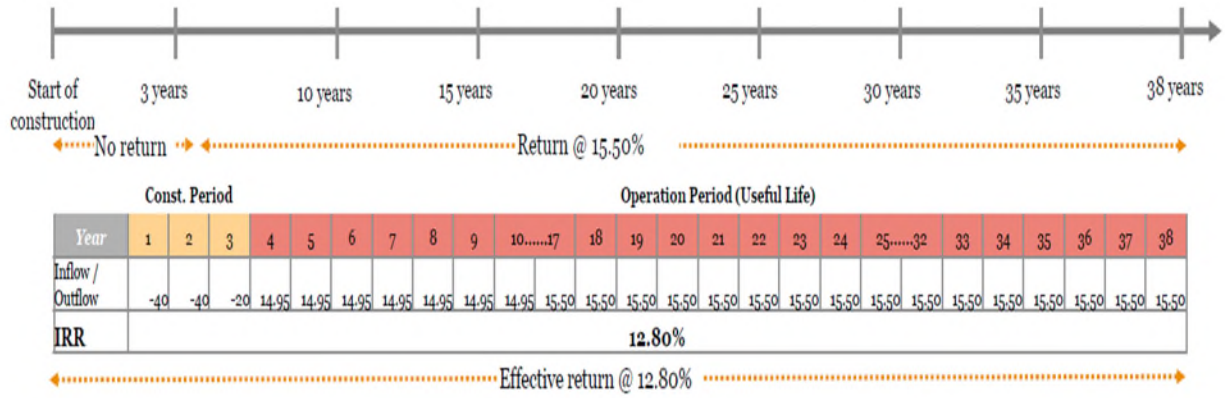
> ***POWERGRID Suggestion:*** *Based on above discussion, it is proposed that the return on the entire equity invested on all accounts including Change in Law and Force Majeure may need to be retained as in the Principal Regulations.*

I. Calculation of effective rate of return on equity, considering construction period

The return on equity is allowed at the specified rate from the date of commissioning of project perpetually until project is operational. However, no return is allowed during the construction period, which reduces the overall return to the project owner. In light of this, the effective rate of return can be defined as the actual rate of return for the company over the project life i.e. from the start of construction to till the end of useful life of asset.

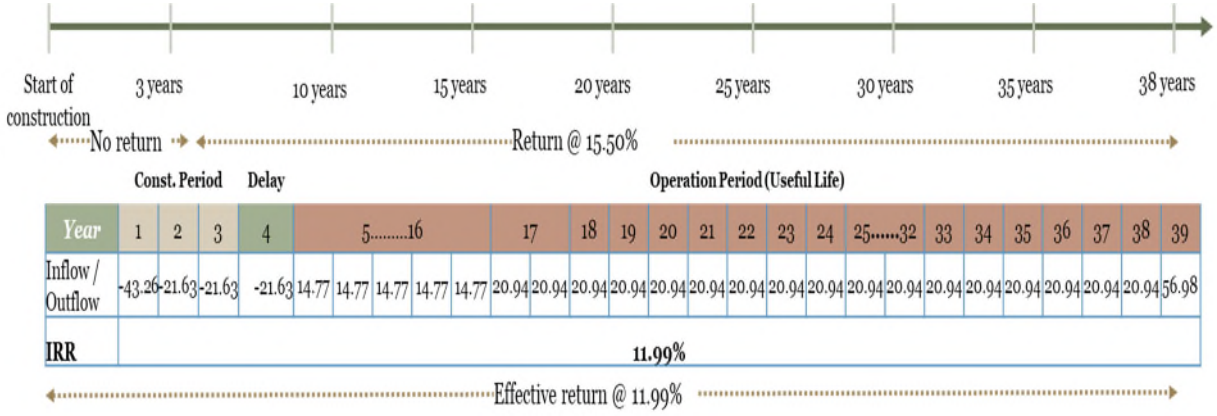
Scenario 1: Assumptions:

- Project Construction period - 3 years, Useful Life: 35 years
- Equity of 100 lakhs is phased in ratio of 40%:40%:20% during construction.
- No equity addition during the project life
- For Initial 12 years, return on equity is adjusted for residual repayment over and above the regulated repayment



Considering no return in the construction period, the effective return for a transmission project comes at 12.80%.

Scenario 2: Delay of 1 year



Effective return for a transmission project reduces to 11.99%, considering a delay of 1 year, since return on equity only after start of commercial operation of the project.

J. Expected Rate of RoE based on CAPM for Indian Transmission Entities

The CERC in the approach paper has suggested the following methodology for determining the expected rate of return using the CAPM:

- "*The average 10-year GOI securities rate over a one-year horizon may be considered a risk free rate*
- *Daily data on the SENSEX and BSE Power Index for the latest 5 years may be considered for equity beta estimation.*
- *Market Risk Premium reflecting the historical returns for a period of 30-years or beyond instead of the existing practice of considering 20 years may be considered for MRP estimation. Alternatively, MRP may be computed using any other method, including the Survey Method."*

- Considering a horizon of 5 years for computing beta doesn't allow the period of uncertainty to be averaged out such as impact of COVID 19 pandemic where the markets were volatile. The beta computation should be in line with the computation of Market risk premium. Further, the use of extended periods of market data in CAPM is described in various literature as well, highlighting the decrease in standard error of risk premium with the increase in estimation period. [*Aswath Damodaran, 2014, Applied Corporate Finance (4th Edition)]*

- As highlighted above, the beta and market risk premium should be in congruence, therefore, a similar period should be considered for computing beta and market risk premium. Further, most of the entities in the power sector were listed in last 2 decades. Therefore, **it would be prudent to consider market risk premium based on 20 years of data instead of 30 years**.

- Allowing the RoE by linking the rate of return with market interest rates such as G-Sec rates /MCLR/ RBI base rate would require an extensive study of risk profile of business for finalizing the margin to be allowed over and above the selected reference rate. Further, this margin would vary from entity to entity and would be difficult to normalise as it depends upon risk profile, organisations size, projected cash flows etc.

- Since, most of the investments will be done in the assets with useful life of 25 -35 years, therefore, it would be prudent to consider a longer duration of periods for computing the beta, risk free rate and market risk premium and consequently, the expected rate of return on equity.

Capital asset pricing model (CAPM) is the most widely used method to estimate the required rate of return. According to this method, the expected rate of return on equity can be calculated as:

$$Ra = Rf + [\beta \times (Rm - Rf)]$$

Where:

Ra = Expected rate of return

Rf = Risk-free rate

β = Beta of the security

Rm = Expected return on market

For estimating the rate of return on equity using CAPM, following steps were followed:

- **Step 1** • Calculate historical market returns for the past 10 years (2003 – 2023) using BSE Sensex data to determine Rm
- **Step 2** • Calculate risk free rate for similar period of 20 years using 10 year govt. bond yields
- **Step 3** • Estimate the Beta for POWERGRID using data of listed Indian transmission companies

The beta for POWERGRID has been estimated as depicted below:

Calculate equity beta for major listed transmission firms and determine average of equity betas → Calculate each firm's financial leverage and determine average of financial leverage → Un-lever the average equity beta using average financial leverage to get average un-levered beta → Re-lever the average un – levered beta using POWERGRID's financial leverage

The unlevered beta is then calculated using the following formula:

Unlevered Beta = $(Levered\ beta\ )/((1+((1-tax\ rate)x(debt/equity)))$

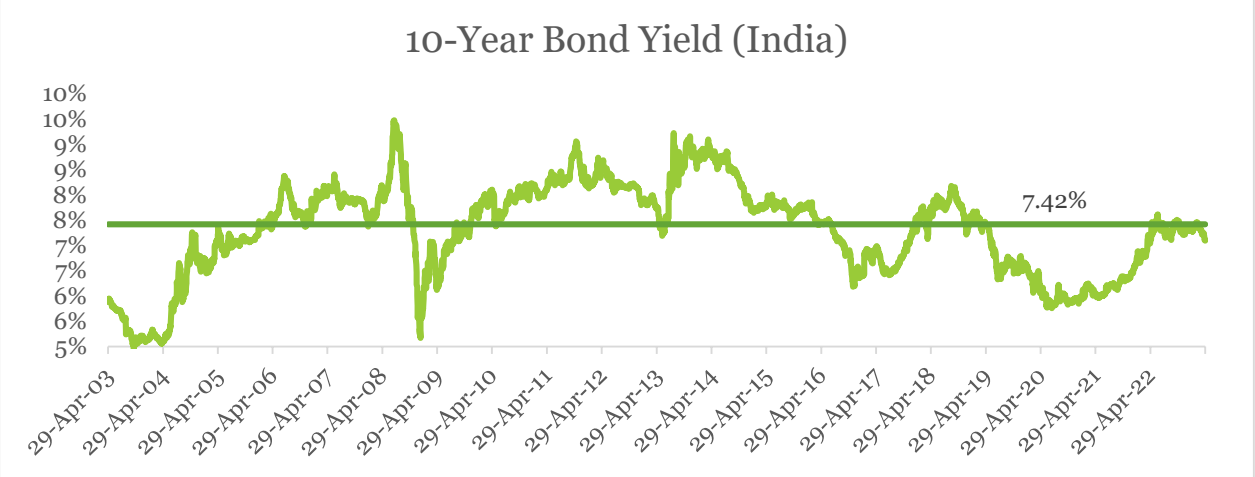
i.Calculation of market return

The market return has been estimated based on historical data of returns of BSE Sensex. **The market return for the period from 2003-23 was 19.80%.**

ii.Calculation of risk free rate based on 10-year government bond yields

Risk free rate is estimated using yield of 10-year government bond. The Risk free rate (Rf) based on **10-year Indian government bond yield for 2003-23 works out to be 7.42%.**

The risk free rate for India has been estimated based on yield on average yield of 10-year government bond over past 20 years.



iii. Estimation of expected Beta for POWERGRID

Calculation of unlevered Beta

Firm	Equity / Levered Beta	D/E	Tax Rate	Un-levered Beta
Adani Transmission Ltd.	0.917	2.713	25%	0.302
POWERGRID	0.685	2.291	25%	0.252
Overall Average	**0.801**	**2.502**	**25%**	**0.277**
• For Adani, data used from July 2015 – till date, since it got listed in July 2015 • For POWERGRID, data used from 2007 – till date				

The unlevered beta works out to be 0.277.

Re-levering the Beta

The average Un-levered Beta for all Indian transmission players is levered using financial leverage for POWERGRID to give expected Equity Beta.

Re-levered Beta = Un-levered Beta x (1 + ((1 – Tax Rate) x (Debt/Equity)))
= 0.277 x (1 + (1-0.25) x (70/30))
= 0.762

Thus, the Beta for calculation for expected return for POWERGRID is estimated at 0.762.

iv. Calculating the expected rate of return

Expected rate of return = Rf + [b x (Rm – Rf)]
= 7.42% + [0.762 x (19.80% - 7.42%)]
= 16.85%

POWERGRID Suggestion: *Thus, it can be observed that using the CAPM method, the expected return works out to be 16.85 %, which is much higher than the existing number of 15.50%.*

K. Estimating return on equity for transmission business in India based on allowed return by regulators in other countries

The transmission business is regulated in most parts of the world. Consequently, regulators allow return on the capital invested at a specified rate, based on methodology adopted by them. The return on equity for transmission business in India has been estimated based on return allowed in five countries. The countries have been selected based on factors including development status, geographic region, the structure of transmission sector and the regulation of the transmission sector etc. A summary has been presented below:

Country	Development Status	Geographic Region	Sector structure	Regulation of transmission sector
Australia	Developed	Australia	Unbundled utilities; State and privately owned companies;	Revenue regulated by energy regulator in respective markets
USA	Developed	North America	Unbundled utilities; Significant private participation	Revenue regulated by federal and state commission
Malaysia	Developing	Asia	Single state owned integrated entity	Revenue regulated by energy commission
South Africa	Developing	Africa	Single state owned integrated entity	Revenue regulated by single energy regulator
Brazil	Developing	South America	Unbundled utilities; Significant private participation;	Auction determined revenue; overall regulations by electricity regulator

These countries adopt different methodologies for setting of allowed rate of return.

Australia	France	Malaysia	South Africa	Brazil
Australia Electricity Regulator determines WACC with rate of equity based on CAPM. The decision is made as per the 'rate of return methodology' for each transmission operator.	Federal Electricity Regulatory Commission determines the base RoE based on two-step DCF methodology. Incentive RoE is allowed on case-to-case basis.	Energy Commission determines fair rate of return based on WACC using CAPM model. The rate of return is based on method in incentive regulation.	NERSA sets regulated return for Eskom-integrated utility of South Africa. Common rate is applied for three ring-fenced businesses.	ANEEL envisages a rate of return while setting maximum revenue for auction. The actual rate of return depends on revenue discovered during the auction

In order, to estimate the required rate of return in India, first step is to calculate the business risk premium in the selected country. Thereafter, the business risk for transmission business is India is estimated using the business risk premium in the selected country and the differential country risk premium. The country risk premium is estimated using the default spread based on rating by independent agencies (such as Moody's), adjusted for the additional volatility of equity market. Finally, the business risk for India is added to risk free rate for India to estimate the required rate of return. A step-by-step approach is shown below:

i. Finding 'expected rate of return' in a country

The expected rate of return for transmission business can be estimated using the allowed rate of return for a transmission entity by regulator in a country.

Expected rate of return = Risk free rate + Business risk premium

ii. Calculating 'business risk premium' for a country

Using the equation in step i:

Business risk premium = Expected rate of return - Risk free rate

iii. Estimating 'business risk premium' for India

Business risk premium (India) = Business risk premium (other country) + Δ Country risk premium

Country risk premium: default spread based on rating by independent agencies (such as Moody's) adjusted for the additional volatility of equity market. So,

Δ Country risk premium = Country risk premium (India) – Country risk premium (other country)

iv. Calculating 'expected rate of return' in India

Expected rate of return (India) = Risk free rate (India) + Business risk premium (India)

The calculation for estimation of business risk premium in India is shown below:

Country	Risk free rate (A)	Allowed return (B)	Business risk premium in that country (C = B - A)	Country risk premium* (D)	Δ Country risk premium # (E = CRP (India) – D)	Business risk premium (India) (F = C + E)
Australia	1.59%	5.25%	3.66%	0.00%	3.79%	7.45%
South Africa	8.66%	15.70%	7.04%	5.19%	-1.40%	5.64%
Malaysia	3.82%	10.9%	7.08%	2.07%	1.72%	8.80%
USA	2.25%	10.57%	8.32%	0.00%	3.79%	12.11%
Germany	0.74%	6.91%	6.17%	0.00%	3.79%	9.96%
Brazil	5.83%	14.71%	8.88%	5.19%	-1.40%	7.48%
Average	**8.57%**					

Negative 'Δ Country risk premium' implies countries riskier than India and positive implies countries less risky than India**.**

* https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Country risk premium for India (CRP (India))* = 3.79%

Source:

- Australia: AER's decision on transmission revenue for AusNet for 2022-27 (AusNet operates transmission network in Victoria)
- South Africa: Eskom application to NERSA for approval for electricity tariff 2018-19
- Malaysia: Tariff for Peninsular Malaysia under Incentive-based regulation mechanism by Energy Commission
- USA: FERC decision on RoE for New England Transmission Operators (NETO), 2014
- Germany: Return on investment under incentive regulation in Germany
- Brazil: Regulator (ANEEL) allowed "rate of return on own capital" in transmission auction 02/2017 for Lot 7

Country Default Spreads and Risk Premiums by Aswath Damodaran (Professor at Stern School of Business at New York University

Thus, the rate of return for transmission business can be estimated at 8.57%+7.42% = 15.99%. ***Therefore, the current rate of Return on Equity @15.5% is lower than the return allowed by regulators in other countries.***

L. Expected Rate of RoE based Return on Equity Allowed in Other Infrastructure Sectors in India

o *Aviation Sector*

Airport Economic Regulatory Authority of India (AERA) sets Fair Rate of Return (FRoR) for a control period is based on weighted average cost of capital.

- Cost of equity, for a control period is estimated by using the Capital Asset Pricing Model (CAPM) for each airport operator.
- Cost of debt is based on forecast cost of existing debt and forecast cost of future debt to be raised during the control period.

$$FRoR = (g \times R_d) + ((1-g) \times R_e)$$

The return allowed to private airports in the country is listed in the table below:

S.No.	Airport	Allowed RoE	Source
1	Indira Gandhi International Airport., Delhi	15.41% (D: E – 48%: 52%)	AERA's order on determination of Aeronautical Tariff for IGI Airport, Delhi for second control period (2019-24)
2	Chhatrapati Shivaji International Airport, Mumbai	15.13% (D: E – 48%: 52%)	AERA's order on determination of Aeronautical Tariffs in respect of Chhatrapati Shivaji International Airport, Mumbai for the first Regulatory Period (2019-24)
3	Rajiv Gandhi International Airport, Shamshabad, Hyderabad	15.17% (D: E – 48%: 52%)	AERA's order on determination of Aeronautical Tariffs in respect of Rajiv Gandhi International Airport, Shamshabad, Hyderabad for the first control period (2021-26)
4	Kempegowda International Airport, Bengaluru	15.05% (D-E – 48%:52%)	AERA's order on determination of Aeronautical Tariffs in respect of Kempegowda International Airport, Bengaluru, for the third Control Period (2021-26)
5	Chennai International Airport (Airports Authority of India)	14% (D: E – 26%:74%)	AERA's order on determination of Aeronautical Tariffs in respect of Chennai International Airport, for the third Control Period (2021-26);

It can be observed that for an entity like airport with limited geographic spread, the allowed return of ~15% with very high equity base compared to Transmission . Thus, overall regulated return in aviation are higher to electricity transmissions sector.

- ***Natural Gas Transmission***

The regulator for natural gas transmission, the Petroleum and Natural Gas Regulatory Board, has set a fixed RoCE of 12% for the sector.

Assuming 'Weighted Average Cost of Capital (WACC)' based approach to return on capital employed, the WACC can be calculated as:

WACC = g * Rd * (1 – Tc) + (1-g) * Re

Where:

g: gearing
Rd = Cost of debt
Tc = Tax rate
Re: Cost of equity

Based on the below assumption, the return on equity (Re) can be calculated as:

S.No.	Parameter	Assumed value	Basis
1.	Gearing (g)	70%	Based on normative gearing in power sector of country
2.	Cost of debt (R_d)	10.62%	SBI base rate + 1%
3.	Tax rate (T_c)	30%	Tax rate for corporate business in India

WACC = g * Rd * (1 – T_c) + (1-g) * Re

⇨ 12% = 0.7 * 10.62% * (1-30%) + (1-0.7) * R_e

⇨ Re = 22.66%

For a sector requiring infrastructure spread across a larger geography, the allowed return is significantly higher than the electricity transmission business.

A. Summary of Expected Return on Equity using different methods

Method	*Expected Return on Equity*	*Key Takeaways*
International Comparison	**15.99%**	o The transmission business risk premium across countries adjusted for respective country risk premium over India works out to 8.57% o Adding risk free rate of 7.42%, the expected return works out to 15.99 %
CAPM – India Transmission Entities	**16.85%**	o Market return premium adjusted for beta for Indian transmission business entities works out to be 8.57%. o Adding risk free rate of 7.42%, the expected return works out to 16.85%
Aviation	**15.41%**	o For an entity like airport with limited geographic spread, the allowed return is ~15% with high allowable equity base compared to Transmission.
Natural Gas	**22.66%**	o For a sector requiring infrastructure spread across a larger geography, the allowed return is significantly higher than the electricity transmission business.

POWERGRID Suggestion: *Based on above, It can be concluded that the existing allowed rate of Return on equity is inadequate for transmission business in India.* ***Therefore, higher return should be allowed to transmission companies or at least, it should be retained at the current level.***

• *Para 4.17: Tax Rate*

The Approach paper discusses the tax rate to be considered while grossing up of rate of RoE. A utility may be paying taxes at the MAT Rate, Corporate Tax Rate or falls under any other tax bracket as per the relevant Finance Act as applicable from time to time. In such cases, the grossing up of RoE shall be at the effective tax rate which can be a rate in between MAT and the Corporate Tax Rate, or any other tax bracket as may be specified from time to time.

Alternatives proposed in Approach Paper

A domestic company shall fall under one of the following brackets, and the maximum tax amount that shall be payable is limited by the tax rates notified for the relevant category.

- *Therefore, Base Rate of RoE may be grossed up as follows: At MAT rate (If not opted for Section 115 BAA)*
- *At effective tax rate (if not opted for Section 115BAA) subject to ceiling of Corporate Tax Rate*
- *At reduced tax rate under Section 115BAA of the Income Tax Act or any other relevant categories notified from time to time subject to ceiling of rate specified in the relevant Finance Act.*

Further, tax shall be allowed only in cases where the company has actually paid taxes as under no circumstances tax can be allowed to be recovered if the company has not paid any tax for the year under consideration.

In view of the above discussion, comments and suggestions are sought on the above and any other alternative(s).

Submissions/Suggestions by POWERGRID

Tax liability of the companies for a particular financial year depends upon the level of income, rebate/exemptions available, tax credits, tax holidays, applicability of MAT, deferred tax liability, etc. The implications of tax liability are long term in nature, and the amount of tax paid/to be paid by the company may not be on current year income level and varies from time to time as per applicable sections of relevant Finance Act. A Company may be subjected to only MAT for a particular year on account of tax exemptions/ tax credits/ tax holidays available to it but the effective tax applicable for the company could be different and company may be paying higher/lower amount of taxes in future on account of various factors as mentioned above. Thus, the effective tax rate of the Company assumes critical importance and should be considered for grossing up of RoE. With this background only effective tax rate was allowed by the Commission in previous regulations for grossing up purpose.

POWERGRID will be paying MAT only till the availability of tax holiday u/s 80 IA /any other exemption/deduction as well as availability of unutilized MAT Credit. Thus, restricting the grossing up rate of ROE to MAT may not be sufficient to meet the actual tax liability of POWERGRID in future. Similarly, grossing up of ROE by effective tax rate if subjected to the ceiling of Corporate Tax Rate will not result in complete recovery of tax since the effective tax rates are bound to increase in the future years due to application of timing difference and restricting the same to corporate tax rate is not fair due to change in base component on which such tax is calculated.

Regarding reduced tax rate under Section 115BAA of the Income Tax Act, the Company is yet to opt for section 115BAA, it will be able to opt for the same only after the expiry/utilization of MAT credit in full or where the benefit of the difference in tax rate exceeds available MAT Credit.

POWERGRID Suggestion: *Based on above discussion, it is to submit that in future when tax holiday u/s 80 IA /any other exemption/deduction will not be available, the effective tax rates for POWERGRID will be higher than MAT rate or ceiling of Corporate Tax Rate. Therefore, it is proposed that actual effective tax rates as applicable for POWERGRID may be considered for grossing up even if the same is higher than ceiling of Corporate Tax Rate.*

- ***Para 4.19: Life of Generating Stations and Transmission System***

Regarding Transmission, the Approach paper discusses that through proper O&M, sub-stations can operate way beyond 25 years similar to transmission lines. However, incentives like Special Allowance may be required.

Alternatives proposed in Approach Paper

The useful life of coal based thermal generating stations and transmission sub-stations may be increased to 35 years from the current specified useful life of 25 years……

……

As the need for higher repairs will still be required, the current dispensation of allowing a special allowance or provision of R&M may be continued after 25 years.

Comments and suggestions are sought from stakeholders on the above proposal and the necessity of further changes, if required.

Submissions/Suggestions by POWERGRID

1) As per the provisions of repealed CEA (Technical standards for Electric Plant and Electric Lines) Regulations 2010, Substations were to be designed for a life of 25 years. However, The CEA (Technical standards for Electric Plant and Electric Lines) Regulations 2022 requires Substations to be designed for a life not less than 35 years. In TBCB Projects from the start, useful life for all assets including Substation and its assets is also 35 years only.

2) Although the earlier Substation equipment may have been designed in line with prevailing Rules and standard technical specification i.e for 25 years, we agree with the Approach paper that with best practices, proper O&M and timely replacement of faulty component, POWERGRID has been able to operate most of its major equipment beyond specified useful life of 25 years.

3) Here it is to mention that POWERGRID for the past many years, has been participating in the International Transmission Operation and Maintenance Study (ITOMS), a global O&M benchmarking platform, comprising 32 leading global power transmission utilities, where it has consistently ranked among the top performing transmission companies. POWERGRID has developed an in-house software tool, POWERGRID Asset Life Management System (PALMS), for improved monitoring of its fleet of transformers and reactors. A Centralized Circuit Breaker health indexing system was developed in-house, which has enabled transition towards predictive maintenance of circuit breakers, a critical element in system protection. Analysis of data generated empowers asset managers with better knowledge and awareness about the assets, helping them in timely and appropriate decision making.

4) However, to implement the proposal the following issues may need to be addressed.

   a) The life span of the equipment is governed by a number of parameters during its service-span like the loading pattern, high voltage, types and frequency of faults experienced by the transmission system and such other technical considerations. In cases where Assets which are designed for 25 years are operated beyond that, the same may be vulnerable and some equipment's may be required to be replaced before 35 years.

   b) With time and with the improvement in technology, suppliers change their line of production of similar nature of equipment or totally stops the production of equipment and switch over to different types of equipment. Thus, supply till 35 years cannot be ascertained. Further, it is seen that after 15/20 years, some of the manufacturers/suppliers / OEMs have also closed their establishments. This

obsolescence of product and non-availability of spares/services, which is beyond the control of POWERGRID, have forced POWERGRID to go for replacement of problematic/unreliable equipment for smooth and reliable operation of the grid. Further, some parts like Polymer Insulators requires replacements after 15-20 years only as it is either damaged by Birds or does not remain effective.

c) Presently, for new AddCap proposals, recommendations of RLDCs/CTU, OEM communication for obsolescence of technology and CERC approvals are required. For extension of useful life, such recommendation/mandates will delay the process.

d) Considering the above, it is proposed that to extend useful life beyond 25 years for existing assets, a normative special allowance may be allowed to transmission licensees for assets completing useful life beyond 20 years to recover cost on account of replacement due to obsolescence, unavailability of spare or failure of some equipment, ageing of equipment after 25 years etc.

e) With increase in useful life, recovery of allowable depreciation will also spread over 35 years. In cases as discussed above, Cases where existing assets may be required to be replaced before completing 35 Years including cases of Reconductoring, Capacity augmentation etc., some allowable depreciation for original asset will remain unrecovered. Therefore, there is a need to cover the cost of Transmission licensee for cases arising out of increase in useful life.

POWERGRID Suggestion: *Based on above discussion,* ***we support that the useful life of Substation may be increased to 35 years****. However, following may be allowed :*

- *Capital expenditure after completion of 20 years may be met through a normative Special Allowance on a 'per km'/ 'per MVA' / per bay basis similar to component wise normative O&M.*
- *In addition, AddCap for HVDC Systems may be allowed as per the prevailing practice after prudence check.*
- ***Unrecovered cost / depreciation with carrying cost and any other relevant charges may be allowed*** *as one time reimbursement*.

• *Para 4.21: Sharing of Charges*

The Approach paper discusses that both generating companies as well as transmission utilities have considerable resources in the form of assets that can be utilised to increase non-core revenues through lease, Data Centres, ecotourism, etc., which should be explored and in order to generate such lateral revenue opportunities, the utilities need to be incentivized.

Alternatives proposed in Approach Paper

Comments and suggestions are sought from the stakeholders on the following:

1. *Ways to increase non-core revenues through optimal utilisation of available resources.*
2. *Any modification in the sharing mechanism that may be required*

Submissions/Suggestions by POWERGRID

1) We agree that both generating companies as well as transmission utilities have considerable resources in the form of assets such as land banks and other enabling infrastructure and human resources that can be utilised to increase non-core revenues through lease, data centers, ecotourism, etc, POWERGRID in past has been in forefront to use such infrastructure to create long term business opportunities even after incurring losses in start. POWERGRID entered into the Telecom business way back in the year 2001. Apart from Telecom, POWERGRID is further trying to use existing infrastructure for Data Center business, Telecom antennas in existing transmission towers etc.

2) POWERGRID is also planning to develop expertise in the renewable spaces and related green business to support the Government of India's vision of achieving Renewable Energy target of 500 GW by 2030. Installation of RE (especially solar power) requires the availability of large patches of land. In this regard, it may be noted that POWERGRID has availability of land in some of the projects across India which can be suited for Solar Generation. Further, considering PAN India presence of POWERGRID at more than 250 locations, it is also strategically placed for business like BESS, EV Charging Station, etc.

   However, presently regulatory provisions require prior approval of the Appropriate Commission before transfer of his utility or any part thereof, by lease, exchange or otherwise. Relevant provisions of the Electricity Act is extracted below;

   "Section 17. (Licensee not to do certain things): --- (1) No licensee shall, without prior approval of the Appropriate Commission, -

   ……

(3) No licensee shall at any time assign his licence or transfer his utility, or any part thereof, by sale, lease, exchange or otherwise without the prior approval of the Appropriate Commission."

Accordingly, POWERGRID for all such businesses has approached CERC for regulatory compliances and approvals. Until the approval is issued, POWERGRID is not able to start such business. Further, due to lack of clarity it also leads to delays and creates uncertainty. Thus, certain provisions in the Tariff regulations may be provided allowing in principle approval to transmission licensees for utilization of existing infrastructure for undertaking businesses such as Data Centre or installation for RE generation etc.

In this regard, it is to mention that Regulation 19 (5)(d) of Tariff regulations 2019 already provides the following.;

19 (5) (5) The following shall be excluded from the capital cost of the existing and new projects:

……

(d) *Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*

Similar provisions for other businesses may be provided granting in principle approval required under section 17(3) of the Electricity Act and methodology to share lease/rent for RE installations, Data Centre, Green Hydrogen, BESS, EV Charging Station etc in sub-station to shorten the approval process providing clarity and confidence to existing Investor to try new businesses.

POWERGRID Suggestion: *Based on above discussion, following is proposed;*

- *In-principal approval required under section 17(3) of the Electricity Act 2003 permitting lease/rent for pre specified related businesses i.e. RE installations, Data Centre, BESS, EV Charging Station, etc. in Sub-station areas may be provided through enabling regulations under the next Tariff regulations.*

- *Further, rent charges due to above businesses may be considered as non-tariff income provided under Tariff Regulations or alternatively, decapitalization of lands from the existing transmission projects may be allowed for utilizing the same for these business by expanding or bringing in more clarity to existing Regulation 19.5.(d).*

• *Para 4.22: Treatment of arbitration award – Servicing of Principal and Interest Payment*

The Approach Paper discusses that the Additional capitalisation including liabilities, to meet an award of arbitration or for compliance with the directions or an order of any statutory authority, or order or decree of any court of law may be substantial including principal amount and interest amount.

Alternatives proposed in Approach Paper

To avoid such situations, the principal amount may be capitalised and the interest amount may be allowed to be recovered in instalments from the beneficiaries. However, such a recovery of interest may also involve carrying costs.

Comments and suggestions are sought from stakeholders on the above approach and alternative ways, if any.

Submissions/Suggestions by POWERGRID

POWERGRID would like to highlight that these awards are done in compliance of the statutory orders or to meet an award of arbitration, which otherwise would have been capitalised as part of the capital cost. We support the view of Approach paper that to reduce the impact of such orders/direction, only the principal amount may be capitalised. However, the interest amount may be allowed to be one time reimbursed along with carrying costs.

POWERGRID Suggestion: *It is suggested that the principal amount may be capitalised as given in the Approach paper , however, the interest amount may be allowed to be one time reimbursed along with carrying costs*

• *Para 4.23: Treatment of interest on differential tariff after truing up*

As per existing regulations, the differential amount of tariff after truing up needs to be recovered or refunded with simple interest in six equal monthly instalments. In this regard, the Approach Paper has brought to light that stakeholders have raised concerns over the method of charging interest on the differential amount up to the liquidation of the last instalment.

Alternatives proposed in Approach Paper

In order to streamline the rate of interest on the differential amount, the current practice of allowing a simple interest rate as per Regulation 10(7) in the 2024-29 tariff block may be continued. Further, interest may be allowed to be charged on the differential amount by the utility only until the issuance of the order, and no interest may be allowed during the recovery in six equal monthly instalments.

Submissions/Suggestions by POWERGRID

POWERGRID endorses the view that the current practice of allowing simple interest rate on differential tariff after truing up should be continued but clarity is required with regard to interest applicable for installment period. Such delay in payment under installments are not covered under tariff norms set for 'Interest on Working Capital' and therefore payment in installments increases the working capital requirement for Transmission/Generation Companies.

Installment payment adversely impacts the cash flow position but considering the interests of Discoms, POWERGRID supports the existing approach of allowing six equal monthly instalments.

POWERGRID Suggestion: *Based on above discussion and to balance the interests of both Generating /Transmission Companies and Discoms, it is proposed that the simple interest may be made applicable for installment period.*

CHAPTER -6 of Approach Paper

Other Key Issues

• Para 6.3 & 6.6: Decommissioning/Upgradation/Replacement of Assets

The paper discusses the cases where a transmission system may be decommissioned prior to the completion of its useful life in order to comply with any statutory orders or due to technological obsolescence duly approved by RPC or any other uncontrollable factors. In such cases, there is a need for appropriate provisions to allow recovery or refund of cost resulting in non-recovery of the full capital cost of the assets.

Alternatives proposed in Approach Paper

6.3…….In view of the above, comments and suggestions are sought from stakeholders on the possible approaches to recover or refund the impact of decommissioning costs in case the generating stations/transmission systems are decommissioned before the completion of their useful lives, if such decommissioning is done in compliance of a statutory order or due to technological obsolescence duly approved by RPC.

6.6…. In view of the above, comments and suggestions are invited from stakeholders regarding the treatment of unrecovered depreciation.

Submissions/Suggestions by POWERGRID

Up-gradation or modification in the existing transmission system is an ongoing dynamic process. Such up-gradation or modification is being planned by Central planning agencies in existing transmission system so as to enable the servicing of the beneficiaries with increased capacity. Further, it avoids the establishment of greenfield new transmission system involving much higher capital investment and dealing with associated right of way issues etc.

Transmission licensees are not involved in the above planning process and are only required to implement the upgradation/replacement schemes as planned and agreed in various forums. These projects are not on account of any deficiency, default, failure or otherwise any factor attributable to Transmission licensees.

Present Tariff Regulations, 2019 provides for decapitalization of the replaced assets from respective projects in cases where replaced assets or parts thereof cannot be put to use again. It is resulting in serious financial consequences to the Transmission Licensee due to no fault of it. High number of similar projects which involves upgradation and modification have already been planned and assigned to POWERGRID for

implementation. To address the difficulty being faced, POWERGRID has already filed a Miscellaneous Petition 61/MP/2022 on the subject and the order is yet to be issued in the same.

POWERGRID suggestion: *Based on above discussion, it is required that the provisions under Tariff Regulations should be supportive to the upgradation of exiting transmission system while providing the benefits to the beneficiaries. Thus, there is a need that transmission licenses be suitably compensated wherein replaced assets can not to be out into use and* ***therefore it is proposed that One time allowance of unrecovered depreciation along with dismantling or any other associated cost may be allowed.***

Additional Suggestions

- ## To optimise high number of petitions

Over 3 decades, POWERGRID's Transmission projects have gradually increased resulting in a large number of Tariff/True up Petitions to be filed. In the 2019-24 control period, POWERGRID has filed around 430 True up petitions and in the next tariff block, this number is expected to further increase up to about 530. Filing, hearing and disposing of such a large number of petitions has become a repetitive and cumbersome exercise for CERC, POWERGRID and concerned Respondents. These petitions have to be filed in a time bound manner and upon filing, CERC endeavors to dispose the same in a timely manner. Despite of best efforts from all stakeholders, considering the quantum of work required including Legal and Regulatory formalities involved in the filing, hearing, issuance of Order, etc. it has resulted in increased amount of repetitive work. **Therefore, it would be prudent to explore options to reduce the number of True up petitions.**

Further, in multiple cases, the capital cost or number of new assets being commissioned or approved under RTM mode are very less e.g Bays extensions work under RTM for Transmission lines under TBCB Projects, Bus Sectioniser or extension Schemes, Communication Schemes etc. For such projects also, irrespective of their size, presently separate tariff pettiions has to be filed wherein in some cases capital cost is even less than Rs 1 Crs . **In view of the above, some suggestions to optimise number of petitions as follows are proposed:**

Suggestion 1:

a. Mandatory requirement of hearing may be dispensed with

Licensees may be mandated to submit the calculation sheets and requisite information to CERC on an affidavit and forward the same to all respondents and upload required calculations on their website as per existing requirements. For the same Separate standard tariff forms may be notified by CERC for information and calculations to be submitted. One such draft format is prepared by POWERGRID for ready reference of CERC and the same is enclosed as **Annexure-I**. If required, CERC may mandate any more information as deemed necessary. Respondents may be allowed a pre-defined time to give any objections/comments on the tariff calculation submitted by Licensee.

b. Multiple Tariff Petitions may be allowed to be clubbed in one petition

Tariff Petition may be allowed to be clubbed into a single Petition on the basis of region wise or block wise or any other combination as deemed fit. The uniqueness of the projects as per Investment approval will be maintained in clubbed petitions. This will significantly reduce number of petitions, especially for the True up petitions having no AddCap or DeCap or any directions/liberty specified by CERC in its last orders, where True up process is majorly limited to arithmetic truing up exercise based on actual MAT rates, interest rates applicable etc;

For such type of single petition on a regional basis, there will be uniformity of respondents which will be of ease for respondents to go through a single petition and give its feedback/comments. Separate standard forms may be notified by CERC for information and calculations to be submitted for such projects.

Uniqueness of the projects as per Investment approval will be maintained in clubbed petitions. Tariff forms and other required unique information of the project may be provided through separate standard forms for each project as part of single petition. Therefore, even in case any AddCap or DeCap is required for coming tariff blocks, the concerned project can be easily separated from clubbed petitions.

Suggestion 2:

In case petition hearing is required considering present regulatory framework, CERC may notify simplified tariff formats as proposed in option 1 and utilities shall file petition in accordance with revised simplified format. Standardise formats will simplify the process of Petition filing, scrutiny and onward issuance of orders by CERC.

Further, regarding filing fee in all above options, the same shall be paid as per the current requirement even though the petitions are clubbed. Thus, POWERGRID will ensure that fee applicable shall continue to be calculated on project basis.

- ***Additional Comments on Interest applicable for delay in Final Tariff orders:***

Although provisions are provided in Tariff Regulations, CERC is issuing final orders in 2019-24 block and no provisional orders are being issued. It may be noted that after filing of tariff petition, considering the prudence check done at CERC end and considering other constraints, the issuance of final tariff order takes considerable amount of time. Regulation does not specifically cover scenarios on applicability of interest rate where direct Final order is issued without issuance of provisional order. Regulatory provisions are required to provide clarity and certainty for arrear billing along with applicable interest.

POWERGRID Suggestion: *Based on above discussion and to address the issue, it is proposed that Regulatory provisions for applicability of interest on final tariff order from COD may be provided to avoid any dispute.*

- ***Useful life of Control & Protection, IT equipment:***

1) Major part of the control & protection of HVAC, HVDC & FACTS stations are electronic type and software based, which gets obsolete within a period of 10 years due to fast changes /development in electronics and software technology.

2) Various Manufacturers keep on upgrading the hardware and software platform with new technologies. In view of the fast-paced technological advancements, old models are being declared obsolete within 10-12 years of age. Some of the benefits seen in new relays are:

    i. Improved selectivity of protection relays.
    ii. Faster operating times.
    iii. Improved cyber security measures
    iv. Better fault analysis capabilities.

3) As per CIGRE Technical Brochure (TB) No. 649 “Guidelines for Life Extension of Existing HVDC Systems” by working group (WG)- 4.54, lifetime of HVDC Digital Control System is 12-15 years. Control & protection of FACTS are same as HVDC station and faces similar issues of obsolescence in C&P System.

4) The cost of C&P in HVDC & FACTS system is considerably high. Further the protection relays in AC substations experience major challenges due to differences in the technical life and regulatory life.

5) For optimum utilization (Better reliability and availability) of HVAC, HVDC & FACTS system, it is proposed to keep the useful life of Control & Protection System separate from the useful life of Sub-stations.

6) In addition, presently, life of IEDs such as Relays, BCUs etc is clubbed with substation, and not distinctly mentioned despite same having the nature of IT equipment. The digital relays have computing resources and networking interfaces and hence likely to become obsolete in less than 7 years. The useful life of IED may be explicitly defined as 7 years.

POWERGRID Suggestion: *Based on above discussion, international experience of utilities, guidelines of CIGRE W.G. 4.54 and POWERGRID experience of O&M of HVAC, HVDC & FACTS systems,* ***useful life of Control & Protections (C&P) of these systems may be defined as 12 years*** *in the interest of timely upgradation/ replacement of obsolete systems for reliable & secure Grid operation.*

Further, life of IT equipment such as SCADA/ relays / BCUs, considering that the same usually become obsolete in 3-7 years, may be defined as 7 years.

- ## *Conditions on filing Tariff Petitions:*

1) Existing Tariff Regulations directs utilities to file tariff petition only if expenditure incurred is more than 70% of the cost envisaged in the Investment Approval or Rs. 200 Crore, whichever is lower.

2) A transmission system may comprise of multiple elements and if any of the major element of such project is inordinately delayed, filing of tariff petition for other commissioned assets may be delayed till commissioning of delayed element resulting in accumulation of stuck up/unrecovered capital expenditure and cash flow constraints. Examples:

   a. The scheme - “POWERGRID works associated with immediate evacuation for North Karanpura (3x660 MW) generation project of NTPC in Eastern Region” consists of 02 nos 400kV line bays each at Gaya and Chandwa sub-station.

   - Bays at Gaya sub-station were complete in all respects w.e.f. 06.10.2019. However, in line with regulations, a petition could be filed only after commissioning

of bays at Chandwa on 09.09.2021 resulting in delay of COD of approx. 23 months for Gaya Bays vis-à-vis COD i.e., 06.10.2019.

b. The project - "ERSS-XVIIB in Eastern Region" consists of 11 assets, which includes Installation/Replacement of 9 nos. 400/220 kV 315 MVA ICTs at various locations, 1 no. LILO bypass arrangement at Angul S/s and Reconductoring of Maithon RB – Maithon (PG) 400 kV D/C line along with modification/addition of bay equipment at both ends of the line.

   - Asset were commissioned progressively from 09.06.2019 to 02.03.2022, with the exception of said reconductoring of 400 kV D/C line, which is expected to be completed by Dec'2023. Thus, in spite of almost all elements of the project being commissioned, the petition for ERSS-XVIIB cannot be filed because of existing provisions.

c. In case of Transmission licensees facing force majeure events during implementation of a particular asset, abovementioned provision of present Tariff Regulations jeopardizes the tariff recovery of other assets in the same project without having any fault of Transmission licensees.

POWERGRID suggestion: Considering abovementioned issues faced by Transmission licensees, Provisions in Tariff Regulations may be provided for filing of Tariff Petition in case an element is commissioned for more than a specified period such as 6 months regardless of the criteria provided under present Tariff Regulations.

- ***Observations on interest calculation on Recovery / Refund due to subsequent order:***

Certain issues related to payment of interest are being faced due to the change in sharing methodology by way of subsequent orders by CERC / APTEL / Any other court etc. For example, based on the order of CERC a DIC / DICs is/are billed for a transmission project, however, DIC feels that the billing is not correct and DIC approaches Commission / APTEL for review / appeal towards that order. Under this scenario, it is observed that DIC is reluctant to pay because if he pays and order comes in his favour there is no explicit regulatory provision towards payment of interest to him although principal amount is paid back to him. Similarly in case the DIC does not pay then LPS liability accrue on him and in case orders revise the sharing, fresh bills are raised upon new entity in compliance to order then who would pay the interest is not clear in Regulations.

POWERGRID suggestion: *To mitigate the issue, it is proposed that in case of modification in sharing of charges due to any order by CERC/ APTEL or higher court at a later date, the amount due to any DIC may be paid back alongwith the simple interest at Bank rate and the same may be allowed to be recovered in the revised bill from the new entity on whom the liability is imposed as it was supposed to pay the bill from original date.*

Above will reduce the litigation and bring clarity to paying as well as receiving entity.

********* X ********

Annexure -1

Date: ...../.../2023

POWERGRID CORPORATION OF INDIA LTD.

Petition Format (True up)

<table>
<tr><th>Sl No</th><th>Particulars</th><th>Description</th></tr>
<tr><td>1.</td><td>Subject/Project</td><td>Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations, 2019 and CERC (Terms and Conditions of Tariff) Regulations' 2024 for
(i) Truing up of Transmission tariff for 2019-14 tariff block and
(ii) Determination of Transmission tariff for 2024-29 tariff block

For Assets under Substation works associated with additional inter-regional AC link for import of power into Southern Region i.e., Warora- Warangal and Chilakaluripeta- Hyderabad - Kurnool 765kV Link</td></tr>
<tr><td>2.</td><td>Asset(s) covered under subject project</td><td>
<table>
<tr><th>Asset name</th><th>DOCO date</th><th>Remarks</th></tr>
<tr><td>2 nos of 240 MVAR, 765kV Switchable Line Reactors (6x80MVAR, 765kV, 1-Ph Shunt Reactor), along with Reactor Bays & 2 Nos 765kV Line Bays excluding PLCC, Telecom equipment and Line Terminal equipment such as LA, CVT & Wave Trap" at 765/400kV Kurnool S/s</td><td>11.03.2019</td><td>Covered under ----</td></tr>
</table>
</td></tr>
<tr><td>3.</td><td>Investment Approval/ Revised Cost Estimate (if any)</td><td>Rs. 283.72 Cr including IDC of Rs. 17.68 Cr, dated 11.04.2017 Copy of Memorandum attached at Encl-1</td></tr>
<tr><td>4.</td><td>Latest Hon'ble commission Order</td><td>Order dated 23.09.2022 in petition no. 23/TT/2022, copy enclosed at Encl-2</td></tr>
<tr><td>5.</td><td>Cost detail (approved vs Actual)</td><td>Cost detail is explained below:</td></tr>
</table>

Cost claimed in previous petition: Rs Lakhs

Name of the asset	Apportioned Cost		Capital Cost as on DOCO/31.03.2019	Add-Cap 2019-24					Total estimated Completion cost as 0n 31.03.2024
	As per FR	As per RCE		19-20	20-21	21-22	22-23	23-24	
Asset-I	11488.19	NA	7931.20	415.40					8346.60
Cost allowed as per order									
Asset-I	11488.19	NA	7900.42	445.87					8346.29
Cost claimed in the instant petition									
Asset-1	11488.19	NA	7931.20	445.87					8377.07

Deductions:

Accrual IDC of Rs 30.47 Lakhs adjusted from DOCO and added in respective year of discharge.

IDC of Rs 0.31 Lakhs was deducted on account of Computation Difference subject to true-up. The same is being reclaimed in the instant petition.

Reasons for cost variation in claimed cost and approved cost.

Capital cost claimed for 2024-29 tariff block:

Rs in Lakhs

Asset Details	Apportioned appd, cost as per FR	Expenditure as on 31.03.2024	Actual/Projected Add Cap 2024-29 as per auditor's certificate			Claimed Cost as on 31.03.2029
			2024-25	**2025-26**	**2026-27**	
Asset-1	11488.19	8346.29	1121.40	510.10	149.11	10126.90

Copy of auditor certificate w.r.t. claimed cost in the instant petition is enclosed at **Encl-3.**

6.	**Direction of Hon'ble Commission in latest available order and its compliance**	*Direction-1* *As per para 28* *"The Petitioner has submitted IDC computation statement which consists of the name of the loan, drawl date, loan amount, interest rate and interest claimed. IDC is worked out based on the details given in the IDC statement. Further, the loan amount as on COD has been mentioned in Form 6 and Form 9C. While going through these documents, certain discrepancies have been observed such as mismatch in loan amount between IDC statement and in Form 6 and Form 9C. The allowable IDC has been worked out based on the available information and relying on loan amount as per Form 9C. However, the Petitioner is directed to submit the detailed IDC statement by rectifying the above-mentioned deviation, at the time of true up of capital cost for 2014-19 period."* Compliance: Cash IDC statement is submitted as **Encl -4.** It is also submitted that the repayment of all the loans (bonds and other loans) is duly accounted for in the calculation of IDC in the Cash IDC statement, i.e., the impact of loans repaid upto DOCO is duly considered while computing the IDC of the respective loan. Direction 2 Compliance

7. Commissioning schedule

Asset	SCOD	DOCO	Delay	Treatment of delay by Hon'ble Commission
Asset-I	11.12.2019 (i.e. 32 months from I.A. date: 11.04.2017)	11.03.2019 (actual)	Nil	No time overrun

Delay reason justification if any asked by Hon'ble commission

8. Initial spares

Project wise detailed calculation of Initial Spares as per Regulation -- of Tariff Regulation 2019 is tabulated below: -

Rs. In lakhs

Asset type	Plant and Machinery cost for calculation of initial spares (A)	Initial spares claimed (B)	Ceiling limit as per Regulations (%) (C)	Initial spares as per Ceiling limit D= (A-B)*C/100-C)	Difference (B-D)
Sub-station (brown field/ Green field/GIS)	9455.21	270.18	586.27	6.00	
TL					

Further, Year wise initial spares discharge detail is enclosed at **Encl-5.**

9 Additional capitalization claim

Sl No.	Asset	DOCO date	Cutoff date
1.	Asset-1	11.03.2019	10.03.2022

Add cap for 2019-24 block:

Add cap claimed for 2019-24 block is within the cutoff date and covered under regulation 24(1)(a) (For undischarged liability) and 24(1)(b) (unexecuted work)

Add cap for 2024-29 block:

Add cap claimed for 2024-29 block is within the cutoff date and covered under regulation --) (For undischarged liability) and -- (unexecuted work)

*Liability flow statement having Package/ Contractor wise detail along with applicable relevant regulation is enclosed at **Encl-6***

10. Capital cost claimed for tariff calculation for 2014-19 and 2019-24 block

(Rs in Lakhs)

Sl.No	Expenditure	Freehold Land	S/S	Total
1	As per Auditor Certificate (Upto DOCO) as on 10.03.2019	365.97	7565.23	7931.2
2	Less : Accrual IDC upto DOCO	0	30.78	30.78
3	Expenditure upto DOCO Excluding Accrual IDC	365.97	7534.45	7900.42
4	Expenditure 2018-19 (Including Accrual IDC)	0	445.87	445.87
5	Add Cap during 2019-20 (As per auditor certificate)	0	1090.62	1090.62
6	Add: Accrual IDC (Discharge during 2019-20)	0	30.78	30.78
7	Expenditure 2019-20 (Including Accrual IDC)	0	1121.4	1121.40
8	Expenditure 2020-21 (Including Accrual IDC)	0	510.1	510.10
9	Estimated Expenditure 2021-22 (Including Accrual IDC)	0	149.11	149.11
10	Total Estimated Completion Cost	365.97	9760.93	10126.90

11. MAT rate

As per regulation 25(3) of CERC (Terms and Conditions of Tariff) Regulations, 2014 dated 21.02.2014, the Petitioner is required to adjust grossed up rate of return on equity at the end of every financial year (for the tariff period 2014-19) based on actual tax paid. The petitioner is liable to pay income tax at MAT rates.

Petitioner has been granted trued-up tariff of 2014-19 by the Hon'ble Commission vide order dated 08.07.2022 in petition no. 486/TT/2019 for transmission assets under the respective petitions, whereas following effective tax rate based (for tariff block 2014-19) on notified MAT rates are considered for the purpose of grossing-up of rate of return on equity (ROE).

YEAR	Notified MAT rates (inclusive of surcharge & cess)	Effective tax (in %)	Grossed up ROE (Base Rate/1-t) (in %)
2014-15	20.961	20.961	19.610
2015-16	21.342	21.342	19.705
2016-17	21.342	21.342	19.705
2017-18	21.342	21.342	19.705
2018-19	21.549	21.549	19.758

12. Details of O&M charges calculation

Sl No	Line/Bay/ICT MVA capacity detail	Voltage level	Line configuration detail	No of bays/ICTs with MVA /Line length
1	Line bays at Kurnool S/s	765	-	2
2	Switchable line Reactor bays at Kurnool S/S	765	-	2

13. True up annual transmission tariff claimed for 2019-24 tariff block (Rs in Lakhs)

Project		**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Asset-1	AFC approved	0.00	0.00	0.00	0.00	102.58
	Revised AFC based on truing up	0.00	0.00	0.00	0.00	103.04

The tariff for block 2019-24 has been worked out as per Annexure-I, Part III of the tariff regulations for period 2019-14 and the Tariff Filing Formats along with the other relevant information and supporting documentation are attached hereto as **Encl-7** and interest rate proof compendium has submitted alongwith petition no. ------.

14. Tariff claimed for 2024-29 tariff block (Rs. in lakhs)

Asset name	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**
Asset-1	1654.39	1755.97	1774.70	1752.08	1716.55

The Tariff Filing Formats along with the other relevant information and supporting documentation are attached hereto as **Encl-8.**

15 Sharing of Transmission Charges

As per Regulation 57 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and shall be shared as per Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020 dated 01.07.2020 and amendment to these Regulations as amended from to time.

16. Respondent detail

Respondent list is enclosed at **Encl-9.**

17 Prayers

a) Approve the true up Transmission Tariff for 2019-24 block and transmission tariff for 2024-29 block for the assets covered under this petition.

b) Approve the Completion cost and additional capitalization incurred during 2019-24 and allow the projected additional capitalization during 2024-29.

c) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2019 and Tariff regulations 2024.

		d) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, and other expenditure (if any) in relation to the filing of petition. e) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019. f) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2024-29 period, if any, from the respondents. g) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 11.6 above. h) Allow the Initial spares claimed as project as a whole. i) Allow the petitioner to claim the capital spares at the end of tariff block as per actual. j) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

Filed by
Power Grid Corporation of India Ltd

Gurgaon
Dated:

Represented by

General Manager (Commercial)

Annexure -1

BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.: …….

IN THE MATTER OF

Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations, 2014 and CERC (Terms and Conditions of Tariff) Regulations' 2019 for

(i) Truing up of Transmission tariff for 2014-19 tariff block and
(ii) Determination of Transmission tariff for 2019-24 tariff block

For Transmission Asset "2 nos of 240 MVAR, 765kV Switchable Line Reactors (6x80MVAR, 765kV, 1-Ph Shunt Reactor), along with Reactor Bays & 2 Nos 765kV Line Bays excluding PLCC, Telecom equipment and Line Terminal equipment such as LA, CVT & Wave Trap" at 765/400kV Kurnool S/s" under **"Substation works associated with additional inter-regional AC link for import of power into Southern Region i.e., Warora- Warangal and Chilakaluripeta- Hyderabad - Kurnool 765kV Link".**

Power Grid Corporation of India Ltd. --- **PETITIONER**
Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.
Corporate Centre : 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

Tamil Nadu Generation and Distribution Corporation Ltd **--- RESPONDENTS**
(Formerly Tamilnadu Electricity Board -TNEB)
NPKRR Maaligai, 800, Anna Salai
Chennai – 600 002
Represented by its Chairman
And Others

AFFIDAVIT VERIFYING THE PETITION

I, Zafrul Hasan, S/O ……, working as General Manager (Commercial) in the Power Grid Corporation of India Ltd., having its registered Office at B-9, Institutional Area, Katwaria Sarai, New Delhi-110 016, do hereby solemnly affirm and state as under:-

1. That I am the General Manager (Commercial) of Power Grid Corporation of India Ltd., the representative of the Petitioner in the above matter, and am duly authorised to make this affidavit.

2. That the enclosed tariff Petition is being filed for determination of Truing up Transmission tariff for 2014-19 tariff block and Transmission tariff for 2019-24 tariff block for Transmission Asset “2 nos of 240 MVAR, 765kV Switchable Line Reactors (6x80MVAR, 765kV, 1-Ph Shunt Reactor), along with Reactor Bays & 2 Nos 765kV Line Bays excluding PLCC, Telecom equipment and Line Terminal equipment such as LA, CVT & Wave Trap" at 765/400kV Kurnool S/s” under **“Substation works associated with additional inter-regional AC link for import of power into Southern Region i.e., Warora- Warangal and Chilakaluripeta- Hyderabad - Kurnool 765kV Link".**

3. That no other tariff Petition except this petition has been filed directly or indirectly for determination of Truing up Transmission tariff for 2014-19 tariff block and Transmission tariff for 2019-24 tariff block for Transmission Asset “2 nos of 240 MVAR, 765kV Switchable Line Reactors (6x80MVAR, 765kV, 1-Ph Shunt Reactor), along with Reactor Bays & 2 Nos 765kV Line Bays excluding PLCC, Telecom equipment and Line Terminal equipment such as LA, CVT & Wave Trap" at 765/400kV Kurnool S/s” under **“Substation works associated with additional inter-regional AC link for import of power into Southern Region i.e., Warora-Warangal and Chilakaluripeta- Hyderabad - Kurnool 765kV Link".**

4. That the statements made in the tariff Petition herein are based on petitioner company’s official records maintained in the ordinary course of business and I believe them to be true and correct.

5. The documents attached with the petition are legible copies and duly attested by me.

(DEPONENT)

VERIFICATION

Solemnly affirmed at Gurgaon on this **--** that the contents of the above affidavit are true to my knowledge and belief and no part of it is false and nothing material has been concealed there from.

(DEPONENT)

Annexure -1

BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

IN THE MATTER OF

Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations, 2014 and CERC (Terms and Conditions of Tariff) Regulations' 2019 for

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Power Grid Corporation of India Ltd. **--- PETITIONER**
Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.
Corporate Centre : 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

Tamil Nadu Generation and Distribution Corporation Ltd (Formerly Tamilnadu Electricity Board -TNEB) **--- RESPONDENT**
NPKRR Maaligai, 800, Anna Salai
Chennai – 600 002
Represented by its Chairman And Others

MEMO OF APPEARANCE

POWER GRID CORPORATION OF INDIA LTD. **-- PETITIONER**

1. Shri Mukesh Khanna, ED (Commercial & RC), POWERGRID
2. Shri Mohd. Mohsin, Senior GM (Comml- Petition), POWERGRID
3. Shri B. B. Rath, Senior GM (Comml- Petition), POWERGRID
4. Shri Zafrul Hasan, GM (Comml- Petition), POWERGRID

POWER GRID CORPORATION OF INDIA LTD.

GURGAON **REPRESENTED BY**
DATED:

General Manager
(Commercial)

Comments on Approach Paper
for (Terms and Conditions of Tariff) Regulations, 2024

POWERGRID