

APP Comments on CERC Approach Paper on Terms & Conditions of Tariff for the period FY 2024-29

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1.	<p>3.1 – Approach 1: Normative Tariff</p> <p>3.2 – Approach 2: Performance Based Hybrid Approach</p>	<p>Suggestion – We suggest continuing with the existing hybrid methodology of determination of annual fixed cost.</p> <p>Rationale –The proposed Indexation methodology would lead to complexity of the calculations and adds more discretion in the hands of regulator. It may be kept in mind that it is very important to avoid subjectivity in the regulatory framework. In the proposed approach, indexation is to be determined for each plant which would lead to differences and disputes in determining the index and there would always be comparison related issues.</p> <p>The current hybrid approach very well balances the cost-of-service approach as well as embedding efficiency and this approach has been working satisfactorily for many years. Such an approach has led to a stable and transparent regulatory framework which is very important for long term and capital-intensive investments like power generation and transmission.</p> <p>In view of the above, it is suggested to continue with current hybrid approach.</p>

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2.	<p>4.2.1 – Capital cost – Background</p> <ul style="list-style-type: none"> • CERC has been approving the capital cost of the projects on case-to-case basis based on actual expenses incurred after due prudence check. • Also, CERC Tariff Regulations, 2009 for first time allowed utilities to seek approval of capital cost on projected basis, which helped utilities to minimise the gap between projected vs actual. • Hence, suggestion are invited on whether provision for interim-tariff for approval of capital cost for Tariff determination as per present regime should be continued for next tariff period? 	<p>The mechanism for approval of Interim/Provisional tariff may be continued as it ensures the cash flow to the company and arrangement of funds for Loan Repayment.</p>
3.	<p>4.2.2 – Procurement of Equipment and Services</p> <ul style="list-style-type: none"> • In the interest of consumers, work contracts are required to be awarded on the basis of competitive bidding, which shall form basis of approval of such costs. • Comments invited on need to mandatorily award work and services contracts for developing projects under the regulated tariff mechanism through a transparent process of competitive 	<p>Suggestion - There are sometimes occasions when competitive bidding is not a viable option due to quality and timeline/schedule considerations and lack of qualified bidders. For such instances, exception (with justification) should be allowed from the requirement of award of contract based on competitive bidding.</p>

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	<p>bidding, duly complying with the policy/guidelines issued by the Government of India as applicable from time to time</p>	<p>Rationale:</p> <ul style="list-style-type: none"> • Developers are following least cost approach for execution of the projects. The majority of work contracts are being awarded for section 62 projects based on competitive bidding as the same are liable for prudence check. • However, in some special cases, because of limited participation from vendors or limited vendors for such special works, competitive bidding is not feasible. In such cases, the contracts have been awarded based on one-to-one negotiations. • Hence, award of contracts based on competitive bidding mandatorily will increase the difficulties of the developer and more Petitions/cases may pile up before CERC for special exclusion on case to case basis. • In view of the above, it is suggested that developer should be provided enough liberty for execution of the project and award of contract based on competitive bidding should not be made mandatory. Moreover, any contract is liable for prudence check and developer shall follow the least cost approach for such work execution. While competitive bidding can be followed in general, however, wherever required due to quality and timeline/schedule

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		<p>considerations and lack of qualified bidders, exceptions need to be allowed with justification.</p>
4.	<p>4.2.3 - Reference cost for approval of Capital cost-Benchmark cost v/s Investment approval</p> <ul style="list-style-type: none"> • As per existing methodology, investment approval cost is considered as reference cost while approving the capital cost. • Suggestions invited on other efficient reference cost other than Investment Approval costs that can be considered for prudence check. 	<p>Suggestion – It is our view that the cost approved in Investment Approval is the most appropriate cost to be considered as reference cost since project peculiarities have already been considered at the time of investment approval. Further, it is also suggested that, in case of substantial delay in execution of project from Investment approval, the revised investment approval shall be considered as reference cost.</p> <p>Rationale - As mentioned in the Approach Paper, it would be difficult to account for all kinds of various site specific issues while determining benchmark costs and therefore the investment approval/revised investment approval may continue to be relied upon.</p>
5.	<p>4.2.4 – Capital cost of hydro generating stations</p> <p>As these expenses towards the advancement of the Local Area are required for the development of the project and for alleviating public resistance and delays, such expenses may be allowed as part of the capital cost with certain limits. Alternatively, these expenses may be met through budgetary support for funding the enabling infrastructure, i.e., roads and bridges, on a case-to-case basis which could be (i) as per actuals, limited to Rs. 1.5 crore per</p>	<p>Suggestion – For the development of a hydro power plant, every State/area has different policies and local area development plan requirements. It would be inappropriate to set any limits on such expenses on a pan-India basis and this expenditure needs to be allowed for every project independently, subject to verification by the local administration.</p> <p>However, if these expenses are proposed to be met through budgetary support for funding enabling infrastructure, then it is suggested that</p>

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	<p>MW for up to 200 MW projects and (ii) Rs. 1.0 crore per MW for above 200 MW projects, as per the Ministry of Power guidelines dated 28.09.2021 for budgetary support for “Flood Moderation” and for budgetary support for “Enabling Infrastructure”.</p>	<p>the proposed limits may be modified as follows:</p> <ul style="list-style-type: none"> • Rs. 1.5 crore per MW for Projects upto and including 200 MW • Rs. 300 crore for Projects above 200 MW and below 300 MW • Rs. 1 crore per MW for Projects including and above 300 MW
6.	<p>4.2.4 – Capital cost of hydro generating stations</p> <p>Comments and suggestions are further sought from stakeholders on ways to expedite the development of hydro generating stations especially the construction phase, and increase their commercial acceptability.</p>	<p>It is suggested that for expediting the development of Hydro stations and increasing their commercial viability, following additional aspects may be considered:</p> <ul style="list-style-type: none"> • An appointed Nodal agency may help in fast-tracking the approvals to facilitate plug and play arrangement. • Basis CEA’s identified river basins, Geological Survey reports/ data repository domiciled within a centrally-appointed agency to be considered to intercept site-specific geological surprises and made available to successful bidders against appropriate payment • While focusing on the quality and implementation schedule, adverse events / uncontrollable factors and events must be taken into account. • Any decision to extend the life of the project should be based on

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		<p>thorough study of independent experts and should be on case to case basis.</p> <ul style="list-style-type: none"> • Increase in the Plant life should not hinder the recovery of Depreciation, ROE etc. • Useful life should be limited to and not exceeding technical design life
7.	<p>4.3 - Capital cost for projects acquired post NCLT proceedings.</p> <ul style="list-style-type: none"> • For Section 62 projects, acquisition value may need to be considered for determination of tariff of the projects acquired post NCLT proceedings. • Further, in case of acquisition price is higher than historical value then the same may be capped at the historical value of such assets as consumers cannot be allowed to bear the asset premium quoted. • In view of the above, the comments are invited on the following: <ul style="list-style-type: none"> ○ What capital cost (Historical cost or Acquisition value) should be considered for determination of 	<p>Suggestion – It is suggested that the successful Resolution Applicant should continue to get the regulated tariff at historical cost and the capex and debt-equity ratio determined under Regulatory process originally should not change. However, only a change in Rate of Interest of the successful Resolution Applicant may be considered.</p> <p>Rationale:</p> <ul style="list-style-type: none"> • It is submitted that the Resolution Applicant who acquires the project is assuming the risk and cost to complete and run the project post NCLT proceedings. It is submitted that the same should be allowed as additional capitalization on prudence basis. • Further, considering that the bids for projects under insolvency are based on the prevailing tariff of the project, if the tariff for such project is going to be re-determined post takeover at the

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	<p>Tariff post approval of Resolution plan.</p> <ul style="list-style-type: none"> ○ Tariff Provisions to be included to address the issue of cost of debt servicing including repayment that were allowed as a part of tariff during the Corporate insolvency resolution plan (CIRP) process. 	<p>Acquisition Cost then the price discovered through bidding process will lose its sanctity and eventually lead to much lower value recovered on resolution. This would go against the intent of the NCLT proceedings which is to get the project back on a sustainable path.</p> <ul style="list-style-type: none"> • It is therefore proposed that the successful Resolution Applicant should continue to get the regulated tariff at historical cost and the capex and debt-equity ratio determined under Regulatory process originally shall not change. However, only the change in Rate of Interest of the successful Resolution Applicant shall apply.
8.	<p>4.4.1 - Computation of Interest During Construction – post Scheduled COD</p> <p>Comments and suggestions are sought from stakeholders on the following options for allowing IDC:</p> <ol style="list-style-type: none"> 1. Existing mechanism wherein the pro-rata deduction (based on delay not condoned) is done on IDC beyond SCOD. 2. Pro-rata IDC may be allowed considering the total implementation period wherein the actual IDC till implementation of the project is pro-rated considering the 	<p>Suggestion – It is our view that none of the options proposed in the Approach paper would lead to recovery of actual IDC incurred considering the condoned delay. Instead of the proposed options, we suggest that the following formula may be considered:</p> <p>Allowable IDC shall be = Original IDC as per Investment Approval + Incremental IDC * delay period condoned/total delay period</p>

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	<p>period upto SCOD and period of delay condoned over total implementation period.</p> <p>3. IDC approved in the original Investment Approval to be considered while allowing actual IDC in case of delay.</p>	
9.	<p>4.4.2 – Treatment of Liquidated Damages</p> <p>Suggestions have been sought on necessary changes required in Tariff forms and Regulations regarding the treatment of adjustment of LD and IDC on account of delay in the project, and for improvement in current methodology for accounting the delay.</p>	<p>Suggestions:</p> <p>a. In view of delay on account of generating company or transmission licensee, the APTEL Judgment in Appeal 72 of 2010 may be followed.</p> <p>b. As per Delhi High Court Order [Indian Oil Corporation Vs. Messrs Lloyds Steel Industries Limited; 2007 (144) DLT 659)] it is established that Liquidated Damages cannot be claimed if it is proved that no actual damages were caused. Hence in cases where delay is on account of non- commissioning of upstream /downstream or where the obligation of COD is on another party, the case of charging of LD from the contractor does not arise. CERC must bring more clarity on such cases in Tariff Regulations. In this regard, CERC (Inter-State Transmission Losses and Charges) Regulations, 2020 already provides the treatment regarding the delay of upstream or downstream element and recovery of charges in such cases and this may be</p>

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		<p>adopted in the Tariff Regulations.</p> <p>c. There are instances where-in entire BG amount has been adjusted enbloc from the allowed capital cost without going into the breakup of the BG amount to ascertain the actual LD amount. This has caused the incorrect adjustments of capital cost and loss of revenue to generators. Therefore, it is suggested that:</p> <ul style="list-style-type: none"> a. A separate Form for incorporating break up of LD/BG amount may be created OR b. Provision for incorporation of LD amount should be created in the existing tariff forms in order to incorporate the breakup of the B/LD amount invoked. c. Only the genuine LD amount must be deducted from the allowed capital cost not the entire BG amount.
10.	<p>4.5 – Price Variation</p> <p>Suggestions invited on the proposal for allowing price variation wherein 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. Further, a</p>	<p>If a project gets delayed then there may be variation in the process of the materials such as Copper, Aluminum, Steel, Cement etc. We feel that in cases where delay in project commissioning is condoned, then corresponding price variation for such delay period condoned should also be allowed.</p>

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	separate form may also be specified to submit the relevant information pertaining to price variation.	
11.	<p>4.6 – Renovation and modernization</p> <ul style="list-style-type: none"> • Comments invited on continuation of existing R&M mechanism considering that R&M is cost effective investment as against fresh capital investment. • Comments and suggestions are also sought on the suggestion of continuing with Special Allowance for the rest of the tariff period, if opted at the beginning of the tariff period to avoid abrupt changes and ensure proper planning. 	<p>Suggestions:</p> <ol style="list-style-type: none"> a. R&M is a cost-effective mechanism and should be continued. b. It is suggested that a special provision be made for undertaking R&M works for projects, which have completed 10-15 years. <p>Rationale - R&M is majorly adopted by plants which are old and are not in good health. Provision for R&M will ensure availability of well-maintained generating stations to the beneficiaries at reduced cost as compared to replacement with new generating stations. R&M is a cost-effective mechanism and should be continued.</p> <p>Regarding Special allowance, which CERC has provided as compensation for meeting the requirement of expenses including renovation and modernisation beyond the useful life of the generating station, the present norm of Rs. 9.5 lakhs per MW per year works out to Rs. 1.42 crores / MW over a period of 15 years, which is barely sufficient to meet capex requirement of R&M. Therefore, other necessary expenditure related to ash dyke and those to comply with Change in Law events for units of more than 25 years may be allowed</p>

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		<p>separately.</p> <p>Currently, R&M works are done by plants which have completed their useful life. It is suggested that a special provision be made for undertaking R&M works for projects, which have completed 10-15 years. The benefit of R&M works in terms of improvement in performance parameters shall be passed on to the beneficiary by reducing the Energy Charge Rate.</p>
12.	<p>4.7 – Initial Spares</p> <p>Suggestions invited on approach and alternative options to standardize and simplify the process of approval of initial spares.</p>	<p>Suggestion - It is suggested that initial spares may be allowed based on actual expenditure after prudence check, rather putting a ceiling limit. However, if it is decided to put a ceiling limit, then there should not be a limit for capitalization up to cut-off date. The relaxation of cut-off date should be allowed for initial spares and capitalisation of spares should be considered beyond cut-off date as well.</p> <p>Further, if the useful life of coal based plants is increased to 35 years, then initial spares need to be reviewed for coal based plants as well.</p> <p>Rationale:</p> <ul style="list-style-type: none"> Initial Spares are crucial part of capital investment. Capitalization of spares like other additional capitalization is also dependent on many uncertainties such as spares availability, vendor

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		<p>negotiation, funding, delivery time etc.</p> <ul style="list-style-type: none"> • It is suggested that initial spares may be allowed based on actual expenditure after prudence check, rather putting a ceiling limit. • As the technology is changing availability of spares are becoming more important and cannot be avoided. • It is further submitted that CEA vide advisory dated 07.02.2020 has mandated the availability of spares inventory for thermal power plants. • Hence, as an alternative approach, if the ceiling limit is put, then there should not limit for capitalisation upto cut-off date. The relaxation of cut-off date should be allowed for initial spares and capitalisation of spares should be considered beyond cut-off date as well.
13.	<p>4.8 – Controllable and Uncontrollable Factors</p> <p>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.</p>	<p>Suggestions:</p> <ol style="list-style-type: none"> a. Inclusion of delay on account of forest clearances is a welcome move. b. Further, delays caused on account of any of the following reasons should also be allowed as uncontrollable factors:

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		<p>a. Delay in clearance approval for Railway line crossing</p> <p>b. Delay in approval for tree cutting</p> <p>c. Any stay on work by a judicial body</p> <p>d. Delay in providing land to the implementing authority</p> <p>e. Delay in Providing the Evacuation facility or Delay in approval for synchronization of the Unit</p> <p>f. Any restriction/hindrances by the buyers</p> <p>g. Any other delays caused on account of statutory approvals</p> <p>Rationale:</p> <ul style="list-style-type: none"> • In most of the cases major part of the project delay is attributable to the forest clearance. Forest clearance comprises of two stages viz. <ul style="list-style-type: none"> ○ Stage 1- In principal approval of the process ○ Stage 2- Finalization of land acquisition. • During Stage 2, the most of the project get stuck due to non-availability of alternate land for Compensatory afforestation,

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		<p>which further delays the project execution. It would be a welcome move that delay on account of forest clearance is included as uncontrollable factor.</p> <ul style="list-style-type: none"> • Similar to the above reasoning, any delays not attributable to the developer should also be considered as uncontrollable factors.
14.	<p>4.9 – Differential norms – servicing impact of delay</p> <p>Comments have been sought on the following:</p> <ul style="list-style-type: none"> ○ 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. ○ Should ROE on equity corresponding to cost and time overrun allowed over and above project cost as per investment approval may be allowed at the weighted average rate of interest on loan. ○ The current mechanism of treating time overrun may be continued, considering that utilities are automatically disincentivised if the project gets delayed. 	<p>Suggestion: The present mechanism of treating the time over run should be continued without deduction in cost for which the period of delay is condoned.</p> <p>Rationale:</p> <ul style="list-style-type: none"> ○ ROE for any project covers the risk investor has put in the project. For any delay not attributable to the developer is considered as the capital investment toward the project. Investor must be assured of return on such risk taken up by him to complete the project despite any hurdles. ○ Additionally, ROE is the sole the financial motivation of the investor to execute the project. Not giving ROE on the delay period expenditure may not attract investment in the sector as infra project is having uncertainties during the construction period.

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		<ul style="list-style-type: none"> ○ Hence, weighted average rate of interest of loan shall not be allowed for such capital expenditure. The allowance at rate of return on equity would be an appropriate approach. ○ As also evident from the approach paper any delay in the project itself reduces the IRR of the project. Hence disallowing some part of the cost may again impact the cash flow and reduce IRR further. The present mechanism of treating the time over run should be continued without deduction in cost for which the period delay is condoned. ○ Further, the rigorous pursuit of approval from the authorities is hard to establish and subject to interpretations. Once the generator submits a request officially it is the concern of the Govt/Utility to act upon it. The Utilities generally resort to the official channels i.e. request letters and use unofficial channel's to follow-up against their request. However, if the concerned agency causes delays due to any reason then the burden of the same cannot be transferred to the project developer in the form of 20% deduction in the allowed cost or any reduction in ROE.
15.	<p>4.10 – Additional Capitalization</p> <ul style="list-style-type: none"> • In order to have an enabling provision under which such 	<p>Suggestion – In addition to expenses which are found beneficial/essential for better fuel management or reduction in operating costs, the following may be allowed for additional</p>

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	<p>additional capitalization can be allowed with prior approval, a provision may be introduced to existing Regulation 26 to allow such expenses (pertaining to Railway Infrastructure and its augmentation for transportation of coal up to the receiving end of the generating station) if they are found to be beneficial/essential for continued operations.</p> <ul style="list-style-type: none"> • Comments and suggestions are sought from stakeholders on the above suggested approaches and other alternatives, if any. 	<p>capitalization with prior approval:</p> <p>a. With reference to Regulation 25(2)(c) of CERC Tariff Regulations for 2019-24, pertaining to additional capitalization within the original scope of work executed after the cut-off date, for replacement on account of obsolescence of technology the following is submitted:</p> <ul style="list-style-type: none"> ○ Plant control systems like DCS & PLCs have HMI/Engineering/Historians based on Microsoft operating system. ○ Due to end-of-life support by OEM & pertinent cybersecurity concerns, periodic upgradation of these systems creates operational bottleneck. ○ Hence, such upgradation requires additional capitalization and accordingly it is requested that the same may be allowed as part of Additional Capitalization. <p>b. Any additional capitalization necessitated on account of any environment related compliances should be allowed separately under the head of additional capitalization along with associated</p>

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		<p>operational expenses.</p> <p>Rationale - Additional capitalization made for achieving performance and technological improvements and for improving the environmental footprint should be considered beyond original scope towards such efficient and smooth operation.</p>
16.	<p>4.10.1 – Normative Add-Cap: Generating Station</p> <p>Suggestions are invited on following approaches in respect to Add cap: -</p> <p>For Thermal generating stations that have already crossed cut-off date as on 31.03.2024</p> <ul style="list-style-type: none"> • Thermal Generating Stations - Based on the analysis of actual additional capitalization incurred by such generating stations in the past (15-20 years) a special dispensation in the form of yearly allowance based on unit size and vintage may be allowed which shall not be subject to true up and shall not be required to be capitalized. • While allowing such dispensation, work covered under Force Majeure, change in law, arbitration award etc, may not be included and should be allowed separately. 	<p>Suggestions:</p> <ol style="list-style-type: none"> a. It is suggested to continue with the present provisions for allowing additional capitalization on actual basis, subject to prudence check by the Commission. b. In case the Commission goes ahead with the special compensation provision as outlined in the Approach Paper, then the following modifications would be required: <ol style="list-style-type: none"> a. Compensation amount to be trued up at the end of control period based on technical audit b. Compensation availed should be allowed to be capitalized. So that generator is able to recover the depreciation and ROE on the amount invested c. Generators should be allowed to approach the Commission for approval of new expenses not covered

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	<ul style="list-style-type: none"> • Items (tools/tackles/Capital spares) costing below Rs. 20 lakhs may be allowed as part of O&M and should not be considered as add cap. • Discharge of liability already admitted by Commission as on 31.03.2024 shall be allowed when discharged. <p>For Thermal generating stations whose cut off date is falling in next Tariff block (2024-29) and are expected to achieve COD by 31.03.2024</p> <ul style="list-style-type: none"> • Cut off date is to be extent to 5 yrs to allow more time to close contracts and discharge liabilities and to eliminate the need to allow additional capitalization post cut off date unless in case of Change in law and Force majeure • However, if there is a need to allow additional capitalization which may be legitimately required post cut off dated other than those presently allowed under force majeure, change in law etc, same may be allowed as special compensation as proposed in case of existing station who have crossed cut-off date. • While allowing special compensation work covered under Force Majeure, change in law, arbitration award etc, may not 	<p>under add cap or special compensation on case to case basis.</p> <p>d. For capital spares less than 20 lakh, additional O&M head to be included under O&M on per/MW/year basis.</p> <p>e. Separate norm of Special Compensation for coastal plants considering corrosion factor and sea water utilization to be provided based on their historical add cap details</p> <p>Rationale:</p> <ul style="list-style-type: none"> • Deriving a unit/vintage specific compensation in place of Ad-cap is not appropriate without any provision for regulatory scrutiny or truing-up at the end of control period. • Allowing a uniform compensation in lieu of Ad-cap to all the generators without enquiring the need for compensation is an undesirable practice. There may be instances where a generator availing special compensation has not actually incurred any cost and other the other hand there may be a generator that incurred more expenses than the allowed compensation. • There may be instances wherein there is a requirement of Ad-cap beyond the original scope and after the cut-off date in below

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	<p>be included and should be allowed separately.</p> <ul style="list-style-type: none"> Items (tools/tackles/Capital spares) costing below Rs. 20 lakhs may be allowed as part of O&M and should not be considered as add cap. Any major capital spares costing above Rs. 20 Lakh may form part of special compensation. <p>Discharge of liability already admitted by Commission as on 31.03.2024 shall be allowed when discharged.</p>	<p>mentioned scenarios:</p> <ul style="list-style-type: none"> An inherent deficiency (technical in nature for ex. Mechanical or metallurgical etc.) in machine causing performance degradation (not covered under warranty) Machine failures requiring immediate replacements (not covered under warranty or insurance). Expenses towards machine upgradation for enhanced safety and better performance not mandated by Govt. or regulations. <ul style="list-style-type: none"> In such situations the generator would not be able to recover such costs as there are no other provisions in tariff regulations that allow such expenses
17.	<p>4.11 - GFA/NFA/Modified GFA approach</p> <p>Suggestion invited on alternate approaches, i.e. GFA/ NFA/ Modified GFA approach.</p>	<p>Suggestion: The present GFA approach may be continued as the utilities are more familiar with the approach. Also, the audited accounts are also aligned with the regulatory framework of GFA approach.</p> <p>Rationale:</p> <ul style="list-style-type: none"> All past implemented projects achieved financial closure assuming returns on GFA basis and not NFA approach. Hence,

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		<p>tinkering with the methodology will increase the perceived risk and banks will charge a higher interest rate which will be passed on to beneficiaries and thereby negating the gains achieved by basing the returns on modified Gross Fixed Assets.</p> <ul style="list-style-type: none"> • The transition of approach would lead to regulatory uncertainty for recovery of cost. • Power Sector is going through a critical phase and private investment has died down in generation and transmission projects. Also, existing projects, when conceptualized, were evaluated considering RoE till the supply/service continues. • Tariff Policy mandates regulatory certainty and any such move will demotivate the prospective investors.
18.	4.12 – O&M expenses	<p>Suggestion - Insurance cost must be treated and allowed separately, as from lenders' perspective insurance is a must for loan disbursement.</p> <p>Rationale:</p> <ul style="list-style-type: none"> • It is suggested that insurance cost must be treated and allowed separately, as from lenders' perspective insurance is must for loan disbursement. Unlike group companies, keeping insurance corpus

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		<p>is not possible for a single plant generator company. The insurance cost available in the market are expensive and has huge share in O&M expenses.</p> <ul style="list-style-type: none"> • Insurance is hedge towards risks a generator faces while running the project. The present Tariff Regulations does not shield generators against emerging risks in changing market scenario. Buyers of electricity are changing their behavior looking for more renewable energy supplies and on the other hand electricity consumption is still growing. Climate change also has an impact on the electricity prices as e.g. during dry seasons with lack of rain electricity generation from hydro power has to be replaced by conventional energies like coal or gas. • It has to be stated that many electricity markets today are in a state of considerable change and suffer new challenges. Existing conventional power plants are now required to operate with much more flexibility and thus are deviating from original design features. Innovative power purchase agreements are expected to govern the market. Future power purchase agreements will be more complex with complicated adjustment and settlement especially with the involvement of electricity and carbon emissions trading.

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		<ul style="list-style-type: none"> • In light of rapid changes expected in the market and thermal power plant are facing lot of uncertainties both at operation and contractual end. Needless to say although these risks exist they need to be insured in respect of value and their influence on the PPA and regulatory policy coverage. • At present, insurance cost allowed to generator is subsumed in the O&M expenses. The insurance cost is necessary for the projects covering all risks including market risks and risks on account of natural calamities. It is to be appreciated that insurance cost depends upon market risk of the business, which is now continuously increasing for coal generating plant and burdening the generator. • It is pertinent to mention that even lenders also do not provide additional loan in absence of insurance which affects the plant operation and capex investment. <p>In view of the above it is requested that Commission may allow the petitioner to recover the insurance cost as on actual basis over and above normative O&M expenditure.</p>

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19.	<p>4.12.1 – Segregation of normative O&M Expenses</p> <p>Whether O&M expenses may be categorized as: -</p> <ul style="list-style-type: none"> • Employee expenses • Other O&M expenses (R&M and A&G) <p>Suggestion may be given considering that the automated system would require less manpower and less automated system would require more manpower. Segregation may increase complications.</p> <p>Alternatively, to give effect to the impact of pay/wage revision, 50% of the actual wage revision can be allowed on a normative basis, suggestions are sought.</p>	<p>Suggestions:</p> <ul style="list-style-type: none"> • Bifurcating the O&M expenses into Employee and Other O&M may not be desirable. • It is suggested to take cognizance of the O&M incurred on actual basis rather than relying on same norms for all. True up of O&M should also be practised. • The existing provisions of allowing separately the other expenses i.e Water Charges, Ash Transportation etc. must continue as per current practice. <p>Rationale:</p> <ul style="list-style-type: none"> • The proposal of bifurcating the O&M expenses for giving effect of one time pay revision for the public sector employees will be company-specific leading to industry compartmentalization • The O&M norms provided are also applicable for IPPs whose pay structure is different from the public sector employees. i.e. There are no Pay commissions as available for the Govt. Employees. • Therefore, bifurcating the O&M expenses into Employee and

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		Other O&M may not be desirable.
20.	<p>4.12.4 – Inclusion of Capital Spares</p> <p>Suggestion invited on whether capital spares: -</p> <ul style="list-style-type: none"> • Can be allowed on normative basis along with O&M or • Low value capital spares i.e., below Rs. 20 lakhs may be made part of normative O&M and capital spares above Rs 20 lakhs can be allowed separately on case-to-case basis. 	<p>Suggestion - It is advisable to continue with present regime to allow capital spares as and when it is capitalized on actual basis.</p> <p>Rationale:</p> <ul style="list-style-type: none"> • Benchmarking the Capital Spares for all the unit sizes is cumbersome as different unit sizes would have different patterns of capital spares requirements. • The second approach advocated in the staff paper wherein spares up to 20 Lakhs value may be included in O&M expenses also does not seem appropriate as the value of 20 Lakhs is quite high and generator shall be losing the depreciation, ROE etc on account of inclusion of the same in O&M.
21.	<p>4.12.5 – Impact on account of Change in Law and Taxes</p> <p>It is observed that there are no provisions with regard to allowing additional expenses on account of any change in law resulting in an increase in O&M expenses. However, including the same may lead to recurring impacts, and claims that may result in regulatory overburden.</p> <p>Comments and suggestions are therefore sought from</p>	<p>Suggestion:</p> <ul style="list-style-type: none"> • Change in law needs to be considered on case-to-case basis and it cannot be normalized. We therefore suggest to provide an enabling clause under O&M for uncontrollable events, which should be taken into consideration on actuals and tried up on quarterly or annual basis. Such enabling provision would also address a concerns of wage revision under Point no. 4.12.1 of the

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	<p>stakeholders on whether to include any provisions with regard to allowing impact of a change in law on O&M expenses.</p>	<p>Approach Paper.</p> <ul style="list-style-type: none"> Further, it is submitted that, at present, the impact of Change in law is allowed only in capital cost. In case of project specific change in law wherein new assets is capitalized like FGD, etc, the present mechanism allows only capital expenditure. Since the present O&M norms are linked to capacity and there would be no change in capacity in such case, O&M expenses on account of this additional capitalization is unrecovered. Hence, there is requirement for allowing O&M expenditure on such new capitalized asset on account of change in law. Hence, it is further suggested that the Commission should specify additional O&M for maintaining and operating new assets which are capitalized on account of change in law duly approved by the Commission. The additional norms may also be specified in this regard. <p>Rationale:</p> <ul style="list-style-type: none"> The essence of the Change in Law compensation is to evaluate “adverse material change” impacting operations and restore the economic position of the affected party so as the Change in law has not occurred. This is also in accordance with the Tariff Policy

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		<p>2016 which states that:</p> <p><i>“After the award of bids, if there is any change in domestic duties, levies, cess and taxes imposed by Central Government, State Governments/Union Territories or by any Government instrumentality leading to corresponding changes in the cost, the same may be treated as “Change in Law” and may unless provided otherwise in the PPA, be allowed as pass through subject to approval of Appropriate Commission.”</i></p> <ul style="list-style-type: none"> • Therefore, denying the Change in Law compensation in any form whether Capital Expenses or in O&M Expenses for the sake of Regulatory overburden is not in accordance with law.
22.	<p>4.13 – Depreciation</p> <ul style="list-style-type: none"> • 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). 	<p>Suggestion - It is suggested that the present approach of consideration of repayment period of 12 years may be continued.</p> <p>Rationale:</p> <ul style="list-style-type: none"> • Under the present Regulatory mechanism, the repayment for long tenor loan for repayment period of 12 years has been considered equivalent to depreciation. Accordingly, depreciation has been allowed by considering the annual depreciation equivalent to repayment amount considered for loan tenor of 12 years. This

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		<p>enables the Generating company to have an adequate cash flow available to meet its debt service obligation. However, the Approach paper has proposed to increase the repayment period from 12 years to 15 years, with an assumption that there is availability of long tenor of 15-18 years.</p> <ul style="list-style-type: none"> • With the increase in the repayment period to 15 years, it is assumed in the Approach Paper to lower the tariff because of decrease in depreciation, which is not reflecting in the computations. On the contrary, it is noted that there would be net increase in Annual Fixed Charges by more than 7-8% over the useful life of the project, on account of increase in Interest amount for such longer period of normative loan. Increasing repayment period will increase the burden on beneficiaries (at the last mile- end consumers) over project lifecycle as well as reduce the cash flow for Generating Company. The proposed approach is also not aligned with the principles and objectives enshrined in the Electricity Act, 2003 and Tariff Policy to protect the interest of consumers as well as developer. In this case, it is evident that it is helping none of the stakeholders. • Further, it is noted that the long-tenor loans are disbursed by Banks after considering their Asset-liability position and risks

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		<p>associated with loans. Majority of Bank's liabilities (Deposits, etc.) are in the bucket of lower age tenor (8-10 years). The repayment period of 12 years is being allowed by considering the average period of Bank's liabilities and risks of infrastructure projects. The longer time would be required to Banks for recovery of its long tenor loans, and this will increase their risk. Hence, there is strong aversion by Banks to lend the long tenor loans to infrastructure project. Accordingly, for long tenor loans, higher interest rates are being charged by Banks. If such long tenor loans are availed by Generating Company(ies), this will put additional burden on Beneficiary over project lifecycle as interest rates are pass through. Hence, it would not be a feasible option for Generating company to avail such long tenor loans because of higher interest rates and its subsequent impact on cash flows. In view of this, it would not be appropriate to consider the repayment period of 15-18 years as the long tenor loans are not feasible option.</p> <ul style="list-style-type: none"> • Now even in case External Commercial Borrowings (ECB), Reserve Bank of India (RBI) has stipulated the average maturity period of three (3) years with "All-in-cost" ceiling interest cost i.e., Benchmark rate plus maximum spread. For Rupee denominated ECB, it would be Benchmark rate plus 450 basis

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		<p>points and for Foreign Currency denominated ECB, it would be benchmark rate plus 500 bps. Further, in case of long tenor ECBs, say 10 years, it would require the payment of higher spread over the benchmark rate, which is not allowed by RBI. Hence, option for consideration of long tenor ECB would not be feasible option. In addition to this, Issue of assets liability matching will also be applicable in ECB facility. Foreign Banks, Indian Banks having branches outside face difficulty in sanctioning longer tenor foreign currency loans for projects unless they have matching assets and liabilities.</p> <ul style="list-style-type: none"> • Further, it may be noted that because of current climate change scenario and Environmental, Social and Governance (ESG) constraints, Foreign Banks/Financing Institutions are not readily willing to lend for financing fossil fuel-based projects. With changing scenario and energy mix, the availability of loans to Thermal Generating Stations is expected to be constrained or it would be at higher rate of interest. This is primarily because of higher risk perception of Fossil fuel generation due to transition to RE and higher exposure of domestic loans to power sector considering large fund requirement for Thermal generating stations. Therefore, the situation for taking longer term loans from foreign banks/ financial Institutions will further aggravate

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		<p>on increase in tenor of term loans.</p> <ul style="list-style-type: none"> • Further, the Proposed methodology of calculating the depreciation is not aligned with the recent proposal of Ministry of Power to reduce the tenure of the long term PPAs from 25 years to Max 12-15 years. • Also further, the CEA Regulations for Part Load operations would come under effect from the next control period which shall increase wear and tear and reduce the life of the Units, and therefore any question of increase in the life of the generation units do not arise. • In view of the above, it is noted that there is lot of uncertainty in terms of interest rates for fossil based plants especially for long tenor loans and for cost plus projects. The primary reason for considering Interest rates on actuals is to insulate the both beneficiaries and generating company from the associated risks. The proposed approach of consideration of repayment period of 15 years would lead to major liquidity issues for Generating Stations as well as it would burden the beneficiary with additional cost. Hence, it is suggested that the present approach of consideration of repayment period of 12 years may be continued.

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23.	<p>4.14 – Interest on loans</p> <ul style="list-style-type: none"> To simplify the approval of interest on loans, the weighted average actual rate of interest of the generating company or transmission licensee may be considered instead of project specific interest on loans. Further, the cost of hedging related to foreign loans be allowed on an actual basis, without allowing any actual FERV. 	<p>Suggestions:</p> <ul style="list-style-type: none"> It is suggested to continue existing approach of project specific interest on loan since loans are availed specific to a project and not doing so may lead to under-recovery of tariff. Further, considering rate of interest at company level, may sometimes prove to be detrimental to consumers' interest. The option to claim either hedging cost or FERV, whichever is lower, should be available to generator for loan. Further, Tariff Regulation should also introduce the provision with respect to hedging FERV against the Project contracts as most of project contracts are exposed to Foreign Exchange risks. It is further suggested that in respect to refinancing of loan, the Commission should provide a detailed mechanism as more and more projects are opting for refinancing. At present, the computation of re-financing is left at discretion of Generating company and its beneficiary. It is suggested that NPV based one-time settlement of the refinancing benefit should be allowed. In NPV based settlement, the NPV of Interest on loan based on difference of actual and revised WAROI is calculated and shared

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		<p>between the parties in as suggested in the regulations.</p> <p>Rationale:</p> <p>It may be noted that risk & reward of each project are different. In addition to the same, companies are involved in various projects and segments of the business. Generation, distribution, renewables, hydro, transmission etc. have different risks & rewards. Accordingly, lenders offer different ROI for different projects, even for the same company.</p> <p>In addition to the above, it would lead to complexities of under / over recovery in case the project has actual loan outstanding with different rate of interest (vis-à-vis the company).</p> <p>In this context, the current approach of taking weighted average actual rate of interest of the project is more appropriate & balanced.</p>
24.	<p>4.15 - Return on Equity (ROE) Vs Return on Capital employed (ROCE)</p> <p>Comments are sought from stakeholders on the continuation of the RoE approach.</p>	<p>Suggestion - The present approach of ROE may be continued as the limitations of the ROCE approach have already been highlighted in the approach paper.</p>
25.	<p>4.16 – Rate of Return on Equity</p> <p>Suggestion invited on consideration of Capital Assets pricing</p>	<p>Suggestions:</p> <ul style="list-style-type: none"> • Capital Asset Pricing Method may be continued for arriving at

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	<p>Model for estimation of ROE. Any alternate mechanism may be suggested.</p>	<p>rate of return on equity. However, it is advisable that the market indices of COVID period may be omitted as it would not be correct representation of a healthy market scenario.</p> <ul style="list-style-type: none"> • Further, it is also submitted that any sudden change in rate of return will create regulatory uncertainty amongst the developers as well as lenders.
26.	<p>4.16 – Rate of Return on Equity</p> <ul style="list-style-type: none"> • Review of Rate of RoE to be allowed, including that to be allowed on additional capitalization that is carried out on account of Change in Law and Force Majeure. • Merit in allowing RoE by linking the rate of return with market interest rates such as G-SEC rates/MCLR/RBI Base Rate. 	<p>Suggestions:</p> <ul style="list-style-type: none"> • There is a need to consider increasing the rate of RoE for generation to 16%. The rate of ROE should not be linked with any other rate such as G-SEC rates/MCLR/RBI Base Rate. • ROE on additional capitalization on account of change in law and force majeure should be allowed at the same rate • The impact of COVID-19 regarding lowering of G-Sec rates should be omitted as outliers while computing the rate of return. <p>Rationale:</p> <ul style="list-style-type: none"> • In case of generating stations, the risk perception has increased due to recurring and increasing domestic coal shortages as also the non-payment of power purchase cost by procurers. This is evidenced by an all time high proportion of stressed assets.

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		<p>Accordingly, there is a need to consider increasing the rate of RoE for generation but at the very least, RoE of at least 15.5% should be retained and not linked with any other rate such as G-SEC rates/MCLR/RBI Base Rate, even for change in law since risk perception has increased with many projects going under insolvency.</p> <ul style="list-style-type: none"> • With the Indian Grid moving toward heavy RE generation mix, the transition would need support & incentives for existing & efficient thermal & gas based generating stations operating under section 62. • Hence, existing capacities under Section 62 will continue to play an important role and will form a major chunk of future generation. Therefore, the risk perception of these investors, including other stakeholders such as lenders, needs to be lowered so that it provides the correct signal to investors for creating the much-needed capacity. • Further, Regulatory certainty is also of utmost importance to continue attracting investment in the power sector. • Additional capitalization on account of Change in Law / Force Majeure requires the developer to divert the equity which would

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		<p>have been used to earn higher returns from other business/project. Hence, it is unfair to consider lower RoE for uncontrollable Change in Law / Force Majeure. Further, any expenditure admitted by the Commission after prudence check has the same applicability of ROE as capital investment. Each cost incurred after the cut-off date is approved by the Hon'ble Commission after adequate prudence check. Therefore, the current provision of denying adequate return on equity portion towards such additional capitalization is arbitrary and defies all financial reasoning.</p> <ul style="list-style-type: none"> • Return on equity is the return allowed to the ordinary shareholders on their equity investment in generation/transmission projects. To ensure that, it is fair to both the investors and the consumers, the return allowed should be comparable with the returns available from alternate investment opportunities having comparable risk. • Rate of ROE should reflect the market situation and must yield reasonable benefit to the investors. During 2019-20 and 2020-21 economies have toppled worldwide due to COVID -19 pandemic. Post-covid our economy has geared up and is still in improvement stage. Hence, the impact of COVID-19 regarding

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		lowering of G-Sec rates should be omitted as outliers while computing the rate of return.
27.	<p>4.16 – Rate of Return on Equity</p> <ul style="list-style-type: none"> Whether the revised rate of RoE to be made applicable to only new projects or to both existing and new projects? 	<p>Suggestions:</p> <ul style="list-style-type: none"> To improve regulatory certainty for the investment made in generating station, rate of return should be applicable for the control period in which such project has achieved COD. Therefore, any variation in the rate of RoE should only to made applicable to new projects and the RoE rate of the existing projects should remain unchanged. Also, ROE may also be considered for construction period compensating Thermal generator for long gestation period.
28.	<p>4.16 – Rate of Return on Equity</p> <ul style="list-style-type: none"> Whether timely completion of hydro generating stations can be incentivised to attract investments? 	It is suggested that higher returns of 0.1% for hydro projects may be provided for every 1 month of COD advancement.
29.	<p>4.16 – Rate of Return on Equity</p> <ul style="list-style-type: none"> Merit behind approving different Rate of RoE to thermal, hydro generation and transmission projects with further incentives for dam/reservoir based projects including PSP. 	<p>Suggestions:</p> <ol style="list-style-type: none"> There should not be any lower RoE for transmission projects. It is suggested that additional 1% and 1.5% RoE may be provided for hydro & PSP projects respectively, considering their status as

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		<p>RE and contribution to Ancillary Services operations</p> <p>Rationale: FoR's recommendation of lower RoE for transmission business is not advisable because any project is conceived considering the prevailing regulatory regime which should not be modified to the detriment of the developer during the project life. It shall affect investor's sentiment and reduce the much-needed investment in transmission segment. Accordingly Rate of RoE should be same as given to thermal projects to boost the confidence of investors considering the multiple problems faced by the Transmission Licensees including Insolvency.</p>
30.	<p>4.16.5 – Rate of return – Old Thermal Generating Station</p> <p>Suggestions have been sought on various possible alternatives to incentivize generation from efficient old generating stations.</p> <p>A possible incentive in the form of paise/kWh may be allowed to such generating stations against generation beyond target PLF.</p>	<p>Suggestion: The plants which have already completed their useful life do not recover depreciation and Interest on Loan in AFC. Such efficient plants are required to be incentivized for their performance. PLF based incentive may or may not be realized by such plant and will depend on despatch of plant by Beneficiaries. It is suggested that if any incentive is to be provided then it may be given in AFC as an additional component.</p>
31.	<p>4.17 – Tax Rate</p> <ul style="list-style-type: none"> The maximum tax amount that shall be payable is limited by the tax rates notified for the relevant category. Therefore, 	<p>Suggestions:</p> <ul style="list-style-type: none"> The present approach for allowing of pre-tax ROE may be continued.

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	<p>Base Rate of RoE may be grossed up as follows:</p> <ol style="list-style-type: none"> 1. At MAT rate (If not opted for Section 115 BAA) 2. At effective tax rate (if not opted for Section 115BAA) subject to ceiling of Corporate Tax Rate; or 3. 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. <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Tax liability on account of regulatory receivables for past period should be allowed at actuals. • Further, for amalgamated entities / zero tax companies the RoE should be allowed to be grossed up with at least MAT rate despite there being no actual tax liability for company as a whole if the project on standalone basis is profitable. • Furthermore, the option of moving towards a normative tax regime where a normative tax on normative RoE is allowed without any true-up may be explored.
32.	<p>4.18.1 – Working capital requirement</p> <p>It is observed that the working capital norms are efficient, so the existing norms may be retained. However, comments and suggestions are invited on any modification that may be required in the norms.</p>	<p>The present mechanism is a prudent approach adopted by CERC and the same may be continued with the following minor adjustments:</p> <ol style="list-style-type: none"> a. Advance payments made to coal accompanies along with LC charges (in case of payment through LCs) should be incorporated in W/C norms b. Imported coal costs are substantially high as compared to domestic coal and procurement of such imported coal needs

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		increased amount of Working Capital requirements
33.	<p>4.18.1 – Working capital requirement</p> <p>With regard to gas based generating stations, from the operational data in recent years, it is observed that the PLF of such generating stations is around 20%-25%. As power from these plants is costlier it is generally scheduled by beneficiaries only to meet peak requirements. It is anticipated that these generating stations will continue to operate at such low PLFs in the next tariff period, and therefore, the current practice of allowing working capital requirements considering generation at normative PLF may need review.</p>	<p>Suggestion:</p> <ol style="list-style-type: none"> a. Recovery of AFC including working capital should be linked to parameters which are under the control of generating station i.e. PAF and should not be linked to parameters determined by others i.e. PLF b. Peak and Off-Peak Tariff may be specified for gas based stations to enable participation in HP-DAM. <p>Rationale:</p> <ul style="list-style-type: none"> • Generators are responsible for maintaining availability and the recovery of Fixed Cost is linked with availability. In this context, we would like to submit that the availability is derived based on declared capacity. As per the definition of declared capacity, it is to be decided after duly considering the fuel and water availability. Further, availability depends not only on water and fuel but also on factors such as ensuring competent manpower, maintaining consumables (part of O&M) & maintenance spares as well as other long term fixed arrangements. Hence, irrespective of actual PLF, the cost of maintaining the fuel stock and other essential remain the same for lower as well as higher

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		<p>PLF.</p> <ul style="list-style-type: none"> • All the above-mentioned components of working capital (i.e. O&M, Maintenance Spares, Liquid Fuel Stock, Receivable) are fixed and mandatory expenses to maintain availability. It is empathized that if the generators are obligated to have in place all above-mentioned arrangements to declare availability (irrespective of the offtake) and such availability is required to be maintained at normative level (i.e. 85%), calculation of interest of working capital should be linked to such normative level only and generators should not be deprived to recover such expenses by associating with irrelevant norms i.e. PLF. • One of the basic objectives of Availability based Tariff for generating stations is to induce maximization of plant availability. This is done by linking the fixed cost (capacity charge) payment to availability declaration. The Electricity Act and the Tariff Policy provide to balance the interests of both the Parties. Norms should protect the interest of consumers, but the same cannot deny recovery of cost under the veil of PLF. The right approach, however, would be to ensure that the recovery is correctly linked to performance of the correct type for the generators so that it brings benefits to consumers. In the present case, the consumer

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		can exercise flexibility based on availability to manage peak and off peak, which will be very important in RE heavy grid.
34.	<p>4.18.2 – Rate of interest on working capital</p> <p>Suggestion invited on consideration of Rate for working capital which is presently one-year MCLR plus 350 bps</p>	The present mechanism is a prudent approach adopted by CERC and the same may be continued.
35.	<p>4.18.3 - Normative working capital and Interest thereon.</p> <p>Comments and suggestions are sought from stakeholders on the ways to determine IoWC along with any other alternatives, if any, so that the same may not require periodic truing up.</p>	<p>The present approach is prudent approach as receivables also include the energy charges based on fuel prices, which is not part of AFC approved by the Commission.</p> <p>Computation of working capital as % of AFC would not be prudent approach as it would not reflect the receivables correctly. Any other approach would not give correct reflection as IOWC depends on many other variables.</p> <p>Hence, the present approach for computation of interest on working capital may be continued.</p>
36.	<p>4.19 – Life of Generating Stations and Transmission System</p> <p>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.</p>	<p>Suggestion – The useful life of coal based plants should be kept as 25 years.</p> <p>Rationale:</p> <ul style="list-style-type: none"> Increasing useful life of coal based plant hinder the recovery of

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		<p>Depreciation since the typical borrowing tenure is 12 years and any change in Plant life shall be detrimental to recovery of Depreciation. This would delay the recovery of the cash flow, which may further impact the loan repayment and effective ROE.</p> <ul style="list-style-type: none"> • For New Plants it would be difficult to get a loan of > 15 years tenure in the current market scenario. • The gestation period is already high for thermal plant with huge investment. Increasing the useful life will delay incoming cash flow of Investor. This may impact future investment in thermal power business. • The useful life of the station cannot be increased without taking into account the design parameters. There are some units which are designed for specifically 25 years. For eg. GMR Warora as per design specification is designed for 25 years only • CEA part load operations regulations shall come in force during next control period and this shall reduce the useful life of the Thermal units due to part load operations. • The Units which are running efficiently beyond 25 Years are supplied by BHEL. However, most of the IPPS have installed units of Chinese origin which are yet to practically

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		<p>establish/demonstrate their actual age. Before taking any action re. tweaking of the Normative Age of thermal units a comprehensive technical study must be carried out by independent experts and views of OEMs (Chinese & others) must also be sought.</p> <ul style="list-style-type: none"> • Policy initiatives of Govt indicate that Indian Electricity market is moving towards a shorter duration whereby PPA tenures would be capped for 12-15 years; in such a scenario any increase in normative plant life needs to be avoided
37.	<p>4.20 – Input price of coal – integrated mine</p> <p>Suggestion invited on modification in current tariff provision regarding determination of input price of integrated mine.</p>	<p>Current provisions may be continued.</p>
38.	<p>4.21 – Sharing of Gains</p> <p>Comments and suggestions are sought from the stakeholders on the following:</p> <ul style="list-style-type: none"> • Ways to increase non-core revenues through optimal utilization of available resources. • Any modification in the sharing mechanism that may be 	<p>Sharing of Gains</p> <ul style="list-style-type: none"> • It is submitted that there should be no sharing of gains on operational parameters. • If sharing is still proposed to be continued then it should be done in the ratio of 75: 25 between generator (75%) and discom (25%) instead of the existing 50-50 sharing • Along with sharing of gains sharing of losses should also be done

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	required.	<p>in the same manner as proposed above.</p> <p>Revenue from non-core business</p> <ul style="list-style-type: none"> Any revenue generated by the generating company or the transmission licensee from non-core business activity should be shared such that 80% is retained by the generator / licensee and 20% is passed on to the consumers. <p>Rationale:</p> <ul style="list-style-type: none"> All the risk here is taken by the generation company. There are many challenges like unavailability of fuel, maintaining operation norms, etc. Also, no risk is being shared by Beneficiary and all risks are with the Developer only. Therefore, the generating companies should be rewarded for efficient performance and all gains are to be retained by the generating company. In line with “Principle of Equity”, as there is no sharing of losses in case of Efficiency loss, there should be no sharing of Efficiency gains earned by a generating company/Licensee. Moreover, such parameters are normative in nature, hence, there should not be any sharing of either gain or losses should be

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		<p>allowed. Whole purpose of giving normative target is defeated by sharing of gains.</p>
39.	<p>4.22 – Treatment of arbitration award – Servicing of Principal and interest payment</p> <ul style="list-style-type: none"> • Comments are invited in respect to treatment of carrying cost to be levied to ascertain the outcome of financial implication of court arbitrations. • Enabling provisions may be made wherein only the principal amount pertaining to capital expenses is capitalized and interest expenses can be recovered in instalments. 	<p>In order to avoid the Tariff shock for either party, the interest payment may be segregated and recovered over a fixed period of time as agreed between the parties.</p>
40.	<p>4.23 - Treatment of interest on differential tariff after truing up</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Carrying Cost should be allowed on the basis of compound interest as settled by Hon’ble Supreme Court in its Uttar Haryana Judgment in Civil Appeal 7129 of 2021 dated 24.08.2022. • Interest during the recovery period of six months should be allowed for both over or under recovery of tariff on the principle of time value of money.

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	six equal monthly instalments.	
41.	<p>5.1.1 – Review of existing norms</p> <ul style="list-style-type: none"> Historically, the target availability has been determined based on the data available for the few past years. The recovery of fixed charges was linked to the Plant Availability Factor (PAF). The Normative Annual Plant Availability Factor (NAPAF) has been specified considering the past years’ data and best industry practices. However, due to changing dynamics such as technological improvement, better O&M practices, and shorter shutdowns and outages, the PAF has improved. However, a shortage of domestic fuel affects PAF, and it has been an area of concern in recent years. In the event of bridging the gap through e-auction, or imported coal (other than fuel arrangements agreed in PPA), the need for prior consent of beneficiaries, the maximum permissible limit of blending, etc. has also been deliberated under Section 5.9 of this Approach Paper. 	<p>For Thermal Coal based Plants, the Normative plant availability factor may be retained @ 85% level. However there should be a provision for deemed availability in case of loss of Availability due to fuel shortage or forced shutdown due to part Load operations.</p>

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42.	<p>5.2 - Peak and Off-Peak Tariff</p> <ul style="list-style-type: none"> • Whether it would be advisable to limit the recovery based on daily peak and off-peak periods. • Suggestions on National versus Regional Peak as a reference point for recovery of fixed charges. 	<ul style="list-style-type: none"> • Daily peak and off peak based recovery is not advisable since it may not always be possible for the plant to be available during peak hours due to part load operations as mandated during next tariff period which would result in increased need for regular O&M and shutdowns. • It is advisable to consider the Peak of the state of beneficiary, instead of considering at national level, for recovery of the fixed cost as it will relate more to the requirement of the Beneficiary and facilitate better fuel planning. • However, in case the actual period of high demand of the State does not coincide with the forecast, it is suggested scheduled overhauling should be allowed as per mutually agreed plan in advance. • It is suggested if there is any loss in the recovery of capacity charges corresponding to Peak period of a particular year then the generator must be allowed to recover that loss during the balance period of the Control period.
43.	<p>5.3 – Operational Norms</p> <p>As the generating stations are separately allowed degradation impact due to low load operations, it is felt that the norms may be</p>	<ul style="list-style-type: none"> • At present, the operational norms are provided based on ideal loading condition of generating station i.e., PLF of 85%. The same approach may be continued.

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	fixed considering the ideal loading of generating units.	<ul style="list-style-type: none"> Provision for degradation impact on unit operation & performance may be finalized and introduced in the system as a cost of flexibilization which has also been emphasized in the Clause 45.12 of IEGC Regulation 2023.
44.	<p>5.4 - Operational norms - inefficient generating stations</p> <p>For generating stations which have not being operating efficiently - Suggestions are sought on the option to do away with the relaxed norms currently being allowed based on actual performance for various efficiency norms of generating stations.</p>	<p>Such plants may be given some grace time to improve efficiency. Post that, the norms may be linked to actual performance.</p>
45.	<p>5.5 - Operational Norms for Washery Rejects based Plants</p> <ul style="list-style-type: none"> Comments and suggestions are sought from stakeholders on the above proposal of continuing the with the existing norms for such plants in next tariff period. CERC Tariff Regulations, 2019, has specified the following operational norms for washery reject-based power plants: <ol style="list-style-type: none"> Station Heat Rate – To be approved on a case-to-case basis. Auxiliary Energy Consumption – 10% 	<p>The present norms may be continued</p>

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	<p>3. Secondary Fuel Oil Consumption – 2ml/kWh</p> <p>4. NAPAF – 75% (First three years from COD) and 80% thereafter.</p>	
46.	<p>5.6 – Emission Control System</p> <ul style="list-style-type: none"> • As only very few of such emission control systems have been commissioned, and in the absence of sufficient data on actual operational performance and its impact on auxiliary consumption, the current tariff norms may be continued for the next control period. However, comments and suggestions are sought from stakeholders on the continuation of the existing norms, or is there a need to modify the same? • Further, as considerable expenses have been incurred to reduce the adverse impact on the environment, suggestions are also sought on ways to incentivizing proper operation of such emission control systems so that the very purpose of incurring such huge expenses can be achieved and accounted for. • Comments and suggestions are sought from stakeholders on whether the current mechanism to exclude these expenses from the merit order may continue until these generating 	<ul style="list-style-type: none"> • The expenses on Emission control system are to be recovered as fixed and energy charges. However, the actual data may only be available after successful running of plant for at least 3 years. Such data may be incorporated in O&M and energy charges. Till that time in principal approval of cost may continue. • Base O&M expense for FGD should 2.5% of the capital cost in line with Section 63 projects instead of the present dispensation of 2%. • Current practice of excluding expenses towards emission control system while preparing Merit Order Despatch stack should be continued till all plants are equipped with the emission control systems.

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	<p>stations equip themselves with emission control systems as per the MoEF&CC notification dated 31.03.2021?</p>	
47.	<p>5.7 – Compensation for Part Load Operations</p> <p>With regard to the compensation norms, an Expert Committee has already been constituted; however, in view of the above discussion, comments and suggestions are sought from stakeholders on the earlier norms and any changes that may be required to compensate the generators to operate the plants in a flexible manner to support the Grid.</p>	<ul style="list-style-type: none"> • CEA (Flexible Operation of Coal based Thermal power generating units) Regulations, 2022 mandates flexible operation capability with minimum power level of 40%. Compensation mechanism in CERC Tariff Regulation must factor in CEA’s Regulations for flexible operation. • To allow 15-minute time block wise compensation for degradation of SHR and Aux. consumption for partial load operations as per CERC Expert Committee report. • To allow additional capex and opex cost under change in law provisions of PPA to the generators. • To direct all States to pay partial load compensation on 15-minute time block wise basis as per CERC Expert Committee report. • As the generating stations are separately allowed degradation impact due to low load operations, the norms may be fixed considering the ideal loading of generating units. • The generating stations are running at low PLF have high energy

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		<p>cost so they will be out of MOD (Merit order Dispatch). In order to have a level playing field, MOD needs to be considered based on Energy Charge Rate without considering the compensation charges. Further, the compensation charges may be billed separately based on actual dispatch of the plant.</p> <ul style="list-style-type: none"> • Similar mechanism for compensation charges may be considered for other Thermal generators as part of Ancillary services who would be participating in providing the support to RE generation. • Duration of part load operation must be noted/recorded at SLDC/RLDC level and at the end of tariff period truing up exercise the cost attributable to part load operations must be compensated based on the actual expenses incurred. A separate tariff form may be inserted in this regard.
48.	<p>5.8 – Gross Calorific Value of Coal</p> <p>Suggestions are invited on ways to reduce the gap between billed and received GCV.</p>	<ul style="list-style-type: none"> • We appreciate the concern and intention of the Hon'ble Commission to curb losses. However, losses between billed and received GCV are entirely due to coal supplier or railways, and completely beyond the control of the generating company. • Any such suggestion for consideration of billed GCV for tariff purpose would result in substantive loss to the generating company only.

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		<ul style="list-style-type: none"> • It may be noted that part of the gap between “Billed” GCV and “As Received” GCV is inherent in nature because “Billed” GCV is arrived at by considering the Equilibrated moisture (At 60% Relative humidity and 40 degree centigrade temperature) whereas “As Received” GCV is calculated based on the total moisture in coal at ambient condition. • The generating stations initially pay to Coal India Limited (CIL) Subsidiaries for the coal based on the GCV ”As billed” on equilibrated basis and final payment settlements is being done (through issuance of debit/credit notes) on the “Equilibrated” GCV analysed by Third Party Sampling Agency at loading end as per the Tripartite Agreement signed between coal company, generating company and Sampling agency. • Introduction of Third Party Sampling and testing of coal at loading point to ascertain the coal quality has been a joint effort of Generators, MoP/CEA and MoC/CIL to reduce the quality gap at loading and generator end as far as possible. • Since Generator has no control over the GCV at loading point and coal mining, inter-carting, coal loading and Railway transportation are carried out by external agencies, therefore GCV

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		<p>“As received” at Generator end may continue to be considered.</p> <ul style="list-style-type: none"> Further, it is not possible to determine normative losses for GCV and quantity for each mode of transport and distance between the mine as there will be different challenges at different geographical location in India. Hence, it is suggested that GCV should be "as received" basis at plant end for domestic and international coal as generator have no control over moisture content till coal reaches its boundary. Further, it is also suggested to consider the normative stacking losses over and above GCV “as received” basis as it is not practically possible to reduce stacking losses to “Nil”.
49.	<p>5.9 – Blending of Coal</p> <ul style="list-style-type: none"> Linking the consent of beneficiaries with the percentage blending of imported coal instead of an increase in ECR may enable a swift response to an increase in demand by the generating company. Procurement of such coal (other than linkage coal) has to be done through a transparent competitive bidding process. Comments and suggestions are sought from beneficiaries on 	<ul style="list-style-type: none"> When blending of coal is based on the statutory and mandatory directions issued by Government or appropriate authority, it may be passed through without taking further consent from beneficiary. During other times when there is shortfall of domestic coal, the proposal of linking the consent of beneficiaries with the percentage blending of imported coal is acceptable but such consent may be taken on one-time annual basis for ease of

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	the above proposal and any other alternative options, if any.	procedural modalities.
50.	<p>5.10 – Incentives</p> <p>Suggestions are invited on incentive linked to generation in excess of target PLF/ NAPF in case of old generating station that are pithead in order to encourage higher generation from such plants.</p>	<p>Suggestion: It is suggested to provide incentives linked to PAF.</p> <p>Rationale:</p> <ul style="list-style-type: none"> • Incentive/disincentive for generating stations should be linked to parameters which are under their control. Since the generator is responsible to make the plant available, the criteria for granting incentive should remain linked to availability. Generation is based on actual station dispatch which in turn depends upon many factors like climatic changes, festival / holidays, abrupt demand changes, renewable generation, transmission / grid considerations etc which are beyond the control of the Generator. In fact such factors compel the DISCOM / beneficiaries not to utilize availability as per declaration. • Further, the reimbursement of fixed charges and computation of Incentive on PAF basis is the most balanced approach, specifically in this transition phase (towards RE) serving the interest of the generators and consumers. A perception that the measure of “service rendered” is the energy supplied by a station has to change, and the capability to supply power (which would normally be fully harnessed and utilized) has to be accepted as

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		<p>the measure of service rendered, specifically in the evolving situation of RE heavy grid.</p> <ul style="list-style-type: none"> • We submit that the proposed regulations should take into account the existing situation. Availability is required throughout the day in the developing scenario of renewable heavy grid. Due to variability of renewable generation, thermal and gas based capacity need to maintain very high availability irrespective of peak and off peak period, which is now decided not only by demand but RE availability also. Hence, we request the Hon'ble Commission to provide incentive linked to availability in line with the Tariff Regulations 2009-14. It is a fact that the consumers' interest can be taken care of through the supply of continuous and reliable power. Further, it is well-established that Availability Based Tariff has dramatically improved the power supply/availability scenario with greater emphasis on continuity and quality. Linking incentive to plant availability is only an extension of this principle in the right direction.
51.	6.2 - Tariff structure for Cost recovery for Emission Control System	The existing mechanism of recovery of impact of emission control systems through Supplementary Fixed Charges and Supplementary Energy Charges may be continued till all generating stations install the emission control systems.

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	<p>As not all generating stations have installed the emission control system, and most of these works are in the execution stage, therefore the existing tariff recovery mechanism may be continued. However, suggestions are invited on alternatives to the existing tariff structure for recovery of impact of installation of emission control system.</p>	
52.	<p>6.3 – Decommissioning of Generating Stations and Transmission Assets</p> <p>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.</p>	<p>The Approach Paper only provides for unrecovered depreciation to be allowed. However, there is no treatment proposed for the unrecovered RoE of the decapitalized asset. The same may suitably be considered in the Regulations.</p>
53.	<p>6.4 – Simplification of Tariff Formats</p> <p>Comments and suggestions are invited from stakeholders for simplifying the existing tariff formats.</p>	<p>It is advisable that for prudence check CERC may develop a portal on which most of financial details of the plant is filled at the time of filing. Only necessary forms may be submitted with petition and the rest of the details could be filled on portal.</p>

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54.	<p>6.6 Up-gradation of Asset/Replacement</p> <p>In view of the above, comments and suggestions are invited from stakeholders regarding the treatment of unrecovered depreciation for decapitalization of assets.</p>	<ul style="list-style-type: none"> • The terminal value (unrecovered depreciation) on the asset being replaced may be adjusted in one go after taking into account the salvage value realized from the sale/disposal of the asset on a competitive bidding basis. • This would be a similar approach as suggested in the approach paper in the case of decommissioning of generating stations and transmission assets.
55.	<p>6.7 – Assumed Deletions</p> <p>Stakeholders may comment on whether to continue to consider the gross value of the asset being de-capitalized, by de-escalating the gross value of the new asset @ 5% per annum until the year of capitalization of the old asset or may suggest any other methodology to compute assumed deletions.</p>	<ul style="list-style-type: none"> • It is noted that the replacement of asset takes place only when such asset is not useful. Capital cost of new asset is based on prevailing market prices and cannot be simply subtracted with the old assets. • The de-capitalization of the assets may be treated separately. Only salvage value may be adjusted with GFA of new asset. Any sale proceeds on account of such scrap of replaced assets will be taken care through 50% sharing of Non-tariff income. • Accordingly, the following proviso may be incorporated in Regulations. <ul style="list-style-type: none"> • <i>“Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and salvage value of the assets replaced on</i>

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		<i>account of de-capitalization”</i>
56.	<p>Necessity to review the need of Regulation 17(2)</p> <p>As per Regulation 17 above, the generating stations and beneficiaries have the option after 25 years of operation to enter into a mutual agreement to recover capacity charges based on scheduled generation. However, the beneficiaries are allowed under 17(2) with the first right of refusal to such arrangement and can exit from the ongoing PPA. It is observed that generation, being a delicensed activity, is purely guided by terms and conditions of PPA and unilateral right to any party, bound by a contract, should not be allowed through Regulations.</p> <p>In view of the above, the provision under Regulation 17(2) of Tariff Regulations, 2019 may result in further complication and being seen as inequitable for the generator, is required to be modified.</p>	<p>Suggestion: It is advisable to not continue with Regulation 17(2) as it does not provide a level playing field to the generators and is one sided.</p> <p>Rationale: To continue or exit any PPA after 25 years of useful life must be mutual decision of beneficiary and generator based on T&C agreed between the parties.</p>

APP comments on Addendum to the Approach Paper regarding compensation methodology for operating a Thermal (Coal) Generating unit below 55% Minimum Power Level

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1.	2. Measures required for achieving lower Minimum Power Load	<p>Technical Minimum Load operation (@40%) of Supercritical units may encounter the following issues:</p> <ul style="list-style-type: none"> • In Supercritical boiler, Benson load is upto 47%. Running supercritical units below 50% will lead to phase change (dry to wet mode). This type of frequent phase change can lead to abnormal change in metal temperatures, water in separator, and severe hammering (separator drain lines). Continuous operation in this range leads to fluctuation in MS/HRH temperature, pressure and metal temperature even with slight change in coal quality and feed water flow. • Any mill tripping at load 50% would affect flame stability which increased probability of unsafe operation along with unit tripping. • The present alloys of SA213T91 and SA213TP347H are more susceptible for exfoliation / oxide formation at low load and frequent load fluctuations to maintain rated parameter. • This will require immediate replacement by higher grade austenitic like S30432 (Super 304H) and SA213TP310HCbN

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		<p>(HR3C) which will drastically increase the CAPEX.</p> <ul style="list-style-type: none"> Unit operation at low load operation will result in increase in forced outage and premature equipment failure. Considering this supercritical unit minimum load operation may be restricted to 50%. <p>In order to achieve technical minimum load and desired ramp rate, approximately INR 50 Crores per unit may be considered (our detailed comments and indicative element-wise costs are in the subsequent sections). For older units the capital investment required is to be based on RLA (Residual Life Assessment) study.</p>
2.	<p>3 A (a) Capital Expenditure</p> <p>i. In case of old Units (commissioned before 01.01.2004) which have not upgraded...</p> <p>ii. It is estimated that measures essential, to operate at 40% load may require....</p> <p>iii. Unit will be eligible for increased fixed tariff irrespective of actual operation once measures are implemented and exhibits desired low load operation...</p>	<p>i. The proposed CAPEX numbers should only be treated as a benchmark and not the ceiling limit.</p> <p>ii. In order to achieve technical minimum load and desired ramp rate, approximately INR 50 Crores per unit may be considered in view of the indicative element-wise cost required to be incurred as follows:</p> <p>a) Advance Process Controller (6 Crores per unit)</p> <p>b) LP turbine last stage blade vibration monitoring</p>

Sr. No.	Approach Paper Clause Reference	APP Comments / Suggestions
	<p>iv. As per the Regulation 8 (11) of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) notified...</p> <p>v. Power plant may be penalised proportionally (Fixed Cost) for not exhibiting low load operation at least 85% of time when asked for.</p>	<p>measurement system (6 Crores per unit)</p> <p>c) Realtime RLA monitoring instruments for monitoring health of components of BTG (6 Crores per unit)</p> <p>d) Auto Mill Scheduler (2.5 Crores per unit)</p> <p>e) Laser/Acoustics temperature profile and auto SADC control (3 Crores per unit)</p> <p>f) Individual coal flow adjustment with dynamic orifice for better combustion control (5 Crores per units)</p> <p>g) VFD for auxiliary equipment like condensate extraction pumps (5 Crores per unit)</p> <p>h) Boiler fan upgrade to axial type from existing radial configuration (10 Crores per unit)</p> <p>i) BFP recirculation valve modification (1.5 Crores per unit)</p> <p>j) Generator online health monitoring i.e PD monitoring and overhang portion monitoring. (5 Crores per unit)</p> <p>k) Equipment upgrade and metallurgy upgrade on case to case</p>

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		<p>basis depending upon configuration of unit.</p> <p>iii. The above element-wise costs would be incurred for both subcritical and supercritical units.</p> <p>iv. For older units the capital investment required is to be based on RLA (Residual Life Assessment) study, in-place of INR 30 Crores.</p> <p>v. The compensation methodology only considers one time expenditure. After the plants are in operation for about 3 to 5 years under Flexible mode, the requirements of any further modifications / upgrades in material etc. will be known. Further in the first capital overhauling after the plants are in this flexible mode of operation, during inspections and metallurgical analysis further damages observed, if any, need to be also addressed with the assistance of OEM's.</p> <p>vi. Table I & II may be updated as per the above and may need revision based on experience in the first 5 years of operation of sub-critical / super-critical units. These will vary from Plant to Plant and accordingly need to be addressed individually for each Plant and the cost incurred on retrofitting of the units</p>

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		<p>for enabling part load operation must be allowed under additional capitalization on actuals. Therefore, any additional expenditure required should not be denied in Tariff..</p> <p>vii. Units are not designed for flexible operation; after implementation of various measures as mentioned in (2.2) two years trial and stabilization period may be considered and proposed clause may be reviewed.</p> <p>viii. The Recovery period of 5 years is very high. It should not be more than 2 years as expenditure is incurred upfront by the Generator.</p> <p>ix. 40% unit load operation with varying coal quality combinations is a difficult operational requirement to be sustained on a continuous basis, without having oil support. PG Tests are conducted under controlled conditions with design coal and fine tuning of operational conditions / parameters by OEM's. Many times shutdowns are taken for maintenance / adjustments before the PG tests are actually conducted. Therefore, penalties should not be recommended for the first 5 years of operation under such mode, till the utilities gain sufficient operational confidence.</p>

Sr. No.	Approach Paper Clause Reference	APP Comments / Suggestions
		<p>x. It is too early to introduce penal provisions from the 2024-29 tariff period. Penal provisions should only be introduced from 2029-2034 tariff period after low load operations have stabilized.</p>
3.	3 A (b) – O&M cost due to increased Life Consumption	<p>i. It has been mentioned that only after 310 days of minimum flexible operation is undergone by the Units than they will be considered for the increase in O&M cost as provided in Table-III.</p> <p>It should be specifically mentioned that even if one cycle of flexible operation is there on a day for a unit than it should be considered as a day in flexible operation for the particular Unit/Plant so as to avoid payment issues from Beneficiaries.</p> <p>ii. The values proposed in Table-III may need revisions based on actual experience of individual Units/Plants over a period of time. Suitable provisions need to be made accordingly.</p> <p>iii. If any shutdown is required for retrofitting then it must be allowed under deemed availability.</p> <p>iv. Low load operations and frequent cycling may result in an increase in instances of shut down of the units causing revenue</p>

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		loss to the generators. There should be a mechanism to identify & reimburse such losses to the Generators.														
4.	<p>3.B (a) – Cost due to increase in Net Heat Rate</p> <p>It has been observed that the extent of deterioration in Net Heat Rate depends on the percentage unit loading. Units running minimum power load below 55% shall be additionally compensated in Electricity Charge Rate (ECR) to the extent of Net Heat Rate (NHR)...</p>	<ul style="list-style-type: none"> Net Heat Rate increase (%) considered for various load band of various capacities units is on lower side. It should be based on design heat rate degradation curve (provided by OEM) after applying the normative margin. <p>OEM reference table for 660 MW is as under:</p> <table border="1" data-bbox="1136 756 1892 1321"> <thead> <tr> <th>Capacity (MW)</th> <th>Loading (%)</th> <th>Proposed Heat Rate increase (%)</th> <th>Typical Heat Rate increase based on OEM HBD (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">660 MW</td> <td><55-50%</td> <td>8.70</td> <td>10.94</td> </tr> <tr> <td><50-45%</td> <td>11.90</td> <td>13.90</td> </tr> <tr> <td><45-40%</td> <td>14.60</td> <td>18.00</td> </tr> </tbody> </table> <p>Therefore, the table may be modified appropriately and provision may be kept for revision of the proposed Heat Rate increase</p>	Capacity (MW)	Loading (%)	Proposed Heat Rate increase (%)	Typical Heat Rate increase based on OEM HBD (%)	660 MW	<55-50%	8.70	10.94	<50-45%	11.90	13.90	<45-40%	14.60	18.00
Capacity (MW)	Loading (%)	Proposed Heat Rate increase (%)	Typical Heat Rate increase based on OEM HBD (%)													
660 MW	<55-50%	8.70	10.94													
	<50-45%	11.90	13.90													
	<45-40%	14.60	18.00													

Sr. No.	Approach Paper Clause Reference	APP Comments / Suggestions
		<p>values based on the actual experience of the plants/units.</p> <ul style="list-style-type: none"> • The compensation may be calculated block wise since the loss incurred in a block cannot be recovered. • Domestic coal price considered is on lower side and GCV considered is on higher side. For the cost of coal, many generators also source coal from the SHAKTI auctions, and these prices also need to be factored in (around Rs. 5500/- tonne for non-pit head stations Rs. 4500/- tonne for pit Head Stations). Regarding GCV, normally As Received GCV of domestic coal would be in the range of 3300 to 3700 kcal/kg. Further, imported coal price has not been considered. Considering the huge variations in landed cost of coal between different plants, the increase in variable tariff due to increase in Net Heat Rate should be plant specific and based on actuals, subject to prudence check. • Compensation for impact of high moisture of imported coal in heat rate may be considered.
5.	3B (b) - Cost due to additional oil consumptions for additional EFOR	Suggestion: For the initial 2 to 3 years of flexible operation of the units at least 1 ml/kwh specific oil consumption needs to be

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	<p>Based on Electric Power Research Institute study report the additional EFOR due to regular low load operation of thermal generating units may increase specific oil consumption from 0.5 ml/kwh to 0.7 ml/kwh.</p>	<p>considered. Any saving on above can be shared between the beneficiaries and Generators.</p> <p>Rationale: With consistent coal quality with respect to GCV,. Ash content and VM% it may be feasible to achieve regular low load operation in a reliable manner. However, in the present scenario where coal is obtained from multiple sources of various coal companies it will not be feasible to maintain a consistent coal quality in an operating plant. Therefore, sustaining with a 2 Mill operating condition at lower load of 40% is not a feasible solution.</p> <p>There would be incidents of flame failures and unit tripping's leading to higher Forced outage and higher specific oil consumption</p>
6.	3B – Variable cost – Additional comments on Auxiliary Power Consumption	<p>Suggestion: The norms for APC may be increased by 0.5% for all unit sizes and after 2 to 3 years of operation, fine tuning can be done</p> <p>Rationale: There would be an impact on APC during low load operation particularly between 40% to 50%. Even the various pumps, Fans etc. would be operating at part load with a lesser efficiency. Since sufficient operating data is not available at this stage, the norms for APC may be increased by 0.5% for all unit sizes and after 2</p>

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		to 3 years of operation, fine tuning can be done
7.	<p>4 Likely increase in paisa/ kWh on account of proposed compensation</p> <p>*No additional capital investment is required in the unit size of 660 MW and 800 MW units for operating them at 40% load.</p>	<ul style="list-style-type: none"> • The sample calculations may be revised on the basis of comments submitted above on the preceding sections. • It is submitted that 660 MW & 800 MW units are not designed for flexible operation (for proposed ramp rate). • For meeting flexible operation, additional capital investment may be considered as per our comments in s.no.2
8.	Assumptions	<p>Some of the assumptions considered in Annexure I require revisiting such as:</p> <ul style="list-style-type: none"> • APC of 6.5% for 250 MW to 500 MW units – This should be in line with prevailing Norms • GCV of coal – 3800 kcal/kg is on the higher size. Normally As Received GCV of domestic coal would be in the range of 3300 to 3700 kcal/kg. • For the cost of coal, many generators also source coal from the SHAKTI auctions, and these prices also need to be factored in (around Rs. 5500/- tonne for non-pit head stations Rs. 4500/-

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		<p>tonne for pit Head Stations).</p> <ul style="list-style-type: none"> • Price of oil may be considered as per prevailing market rates.