



**RP - Sanjiv Goenka
Group**
Growing Legacies



Dhariwal Infrastructure Limited

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Ref No: DIL/REG/CERC/FY 20-21/23

Date: 30.04.2020

To,
The Secretary,
Central Electricity Regulatory Commission
3rd and 4th floor, Chanderlok Building,
36, Janpath
New Delhi-110 001

Subject: Comments/suggestions and/or objections on Draft CERC (Terms and Conditions of Tariff) (First Amendment) Regulations, 2020.

Dear Sir,

At the outset, we thank Central Electricity Regulatory Commission ("**CERC**") for providing us an opportunity to provide our comments, suggestions and/or objections on the Draft CERC (Terms and Conditions of Tariff) (First Amendment) Regulations, 2020 vide its public notice Advt. No. L-1/236/2018/CERC dated 01.04.2020.

Accordingly, please find attached comments on the same on behalf of Dhariwal Infrastructure Limited, a Generating company having its registered office at Kolkata and a 2x 300 MW Coal-fired Power Generating Station at Tadali, near Chandrapur, Maharashtra.

Thanking you,

Yours faithfully,
For Dhariwal Infrastructure Limited

Authorized Signatory

Encl: As above

DHARIWAL INFRASTRUCTURE LIMITED
COMMENTS ON DRAFT CERC (TERMS & CONDITIONS OF TARIFF) (FIRST AMENDMENT) REGULATIONS, 2020

At the outset, Dhariwal Infrastructure Limited (“DIL”) would like to thank the Hon’ble Central Electricity Regulatory Commission (“*Hon’ble Commission*”) for bringing out the Draft CERC (Terms & Conditions of Tariff) (First Amendment) Regulations 2020 (“*Draft Tariff Regulations 2020*”) and providing the stakeholders an opportunity to provide comments/suggestions on the same. Accordingly, the comments and suggestions on the Draft Tariff Regulations 2020 and its terms on behalf of are provided in the following matrix for the kind perusal of the Hon’ble Commission.

REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
APPLICATION FOR DETERMINATION OF TARIFF		
<p><i>Amendment to Regulation 9 of the Principal Regulations</i></p>	<p><i>4.1. A new proviso, namely, Fourth Proviso shall be added to Clause (1) of Regulation 9 of the Principal Regulations as under:</i></p> <p><i>Provided also that the generating company shall file an application for determination of supplementary tariff for the emission control system installed in the coal or lignite based thermal generating station in accordance with these regulations not later than 60 days from the date of operation of such emission control system.</i></p>	<p>We request the Hon’ble Commission to allow the generating companies to file application for determination of supplementary tariff at least before 180 days from Scheduled Commissioning Date of the Project so as to get sufficient time for determination of tariff/provisional tariff.</p> <p><u>Justification:</u></p> <p>a) In order to allow the generators to recover the fixed and variable costs associated with installation of FGD, immediately after commissioning, filling of application for determination of supplementary tariff may be allowed before 180 days from Scheduled Commissioning Date as per the project schedule of the entrusted contractor for the job. The Hon’ble Commission may kindly dispose of such petition and fix a provisional tariff within the next 4 months. Such a provision will help generating company to recover cost incurred immediately on commissioning of the system.</p> <p>b) In case there is difficulty in approving the final Tariff, Hon’ble Commission may allow a provisional supplementary tariff of 95 % of the reasonable costs, subject to determination of final tariff/truing-up as per the provisions of the Regulations.</p>

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COMMENTS ON DRAFT CERC (TERMS & CONDITIONS OF TARIFF) (FIRST AMENDMENT) REGULATIONS, 2020

REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
DEBT-EQUITY RATIO		
Amendment of Regulation 18 of the Principal Regulations	8.1. A new clause, namely Clause (6) shall be added after Clause (5) of Regulation 18 of the Principal Regulations as under: “(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”	The Hon’ble Commission may consider the actual debt-equity for the FGD project since it is difficult for the developers to raise finance from the banks. Justification: a) Taking into consideration the prevailing volatile financial market in India including stress in the banking sector, developers/IPPs are finding it difficult to raise finance from the banks. b) Therefore, in case a developer is forced to put incremental equity above normative level for installation of emission control system, the additional equity should not be considered as normative loan (as per Regulation 18 (1) of the Tariff Regulations and RoE on the actual may be provided to the developer.
INTEREST DURING CONSTRUCTION (IDC) AND INCIDENTAL EXPENDITURE DURING CONSTRUCTION (IEDC)		
Amendment of Regulation 21 of the Principal Regulations	9.2. A new clause, namely, Clause (6) shall be added after Clause (5) of Regulation 21 of the Principal Regulations as under: “(6) For the purpose of Clauses (4) and (5) of this Regulation, IDC on actual loan and normative loan infused shall be considered.”	The Hon’ble Commission may include that IDC on normative loan would be provided from the zero date of investment. Such incorporation would be in line with the terms of the Judgment passed by the Hon’ble Tribunal dated 03.10.2019 in Appeal No. 231 of 2017. Accordingly, the proposed amendment is as under: “(6) For the purpose of Clauses (1) to (5) of this Regulation, IDC on actual loan and normative loan infused shall be considered.”
INITIAL SPARES		
Amendment of Regulation 23 of	10.1 A new Proviso, namely, Proviso (iii) shall be added after Proviso (ii) to Regulation 23 of the Principal Regulations as under:	The Hon’ble Commission may clarify whether initial spares shall also be allowed in case emission control system is allowed by the Hon’ble Commission for an existing project.

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COMMENTS ON DRAFT CERC (TERMS & CONDITIONS OF TARIFF) (FIRST AMENDMENT) REGULATIONS, 2020

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<p><i>the Principal Regulations:</i></p>	<p><i>“(iii) where the emission control system is installed, the norms of initial spares specified in this regulation for coal or lignite based thermal generating station as the case may be, shall apply.”</i></p>	
<p>RETURN ON EQUITY</p>		
<p><i>Amendment of Regulation 30 of the Principal Regulation</i></p>	<p><i>In the first proviso under Clause (2) of Regulation 30 of the Principal Regulations, the words “excluding additional capitalization due to Change in Law,” shall be deleted and at the end of the said proviso, the words and expressions “or in the absence of.....” shall be added as under:</i></p> <p><i>12.1 Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole, shall be considered;</i></p>	<p>We request the Hon’ble Commission to consider the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole or the weighted average rate of interest on last outstanding actual loan portfolio of the generating station, as applicable, in absence of actual loan portfolio of the generating station.</p> <p><u>Justification:</u></p> <p>The proposed amendment in the Regulations may address the issue in hand for cases wherein the generating station is one of the business units of the generating company. However, it may be noted that there may be companies which have only one business unit or in case of generating stations developed by way of joint venture, having no outstanding long-term loan portfolio. In such cases, the Hon’ble Commission may have to consider the weighted average rate of interest on last outstanding actual loan portfolio.</p>
<p><i>Amendment of Regulation 30 of the Principal Regulation</i></p>	<p><i>12.2 A new clause, namely, Clause (3) shall be added after Clause (2) of Regulation 30 of the Principal Regulations, as under:</i></p>	<p>The Hon’ble Commission may retain the provisions of the extant regulations intact for additional capitalization on account of ‘Change in Law’ after the cut-off date, where Return on Equity on additional expenditure arising out of change in law events is treated at par with the return on equity on the original</p>

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	<p><i>“(3) The return on equity in respect of additional capitalization due to emission control system shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or in the absence of actual loan portfolio of the generating station, the weighted average rate of interest of the generating company as a whole shall be considered;”</i></p>	<p>scope of work and allow additional 1% RoE for existing projects in view of the higher developmental risks undertaken by the developer.</p> <p><u>Justification:</u></p> <p>a) In the extant regulations, to discourage continuous capital expenditure outside the original scope of work, after the cut-off date, return on equity has been specified at weighted average interest rate. However, it has been clearly spelt out in regulation 30 (2) of the extant Tariff Regulations that such reduced return will not be applicable for additional capitalization arising due to change in law. The present amendment to the Tariff Regulation proposes to treat the return on equity on additional expenditure due to change in law events at par with other additional expenditure incurred. In the Statement of Reasons, the Hon’ble Commission has only stated that it felt such a treatment as reasonable, without offering any explanation for such reasonableness. However, the distinction of capital expenditure which is forced on the generator due to change in law must be retained. It is therefore requested to keep the provisions of the extant regulations intact for additional capitalization on account of ‘Change in Law’, where return on equity on additional expenditure arising out of change in law events is treated at par with the equity of the original scope of work (i.e. RoE of 15.5% or 16.5%, as the case may be). Such investment is akin to a new Greenfield project necessitated by law. It would be unfair that while new projects being approved shall get the higher rate of return 15.5% (including the equity required to meet the expenses for environmental systems) whereas the existing projects – undergoing retrofitting of FGD/SCR/SNCR shall be fetching lower returns.</p>

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		<p>b) In fact, we request the Hon’ble Commission to recognize that the risks of equity investment in the emission control equipment are far higher for the existing generating plants as the original OEM of BTG package will not take any responsibility for deterioration of plant performance and the entire risk of system integration is completely on the original developer. We suggest the Hon’ble Commission may be pleased to consider that existing plants shall be allowed an additional 1% return on equity investments for environmental systems.</p>
INTEREST ON LOAN CAPITAL		
<p><i>Amendment of Regulation 32 of the Principal Regulations</i></p>	<p>13.1. A new clause, namely, Clause (5a) shall be inserted after Clause (5) of Regulation 32 of the Principal Regulations as under:</p> <p><i>“(5a) The rate of interest on loan for emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.”</i></p>	<p>We request the Hon’ble Commission to consider the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole or the weighted average rate of interest on last outstanding actual loan portfolio of the generating station, as applicable, in absence of actual loan portfolio of the generating station.</p>
DEPRECIATION		
<p><i>Amendment of Regulation 33 of the Principal Regulations</i></p>	<p>14.1. A new clause, namely, Clause (9) shall be added after Clause (8) of Regulation 33 of the Principal Regulations as under:</p> <p><i>“(9) The depreciation of the emission control system shall be computed from its date of operation for the balance useful life or extended life of the generating station, as the case may be.”</i></p>	<p>We welcome this amendment based on the following understanding:</p> <p>a) Based on the reading of the proposed amendment and the statement of reasons, we understand that the amended provision ensures that recoverable depreciation (i.e. 90% of capital cost) with respect to emission control system is fully recovered in the balance useful life or balance extended life of the generating station.</p> <p>b) This provision may kindly be retained without any further modification to ensure full recovery of depreciation.</p>
INTEREST ON WORKING CAPITAL:		

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COMMENTS ON DRAFT CERC (TERMS & CONDITIONS OF TARIFF) (FIRST AMENDMENT) REGULATIONS, 2020

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<p>Amendment of Regulation 34 of the Principal Regulations</p>	<p>15.1. A new clause, namely, Clause (aa) shall be inserted after Clause (a) of Regulation 34 of the Principal Regulations as under:</p> <p>“(aa) For emission control system of coal or lignite based thermal generating stations:</p> <p>(i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;</p> <p>(ii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor;</p> <p>(iii) Operation and maintenance expenses in respect of emission control system for one month;</p> <p>(iv) Maintenance spares @ 20% of operation and maintenance expenses in respect of emission control system.”</p>	<p>We request the Hon’ble Commission to consider the following & make necessary provisions in the Regulation:</p> <p>i. While calculating interest on working capital, cost of lime stone or reagent stock may be allowed for 30 days corresponding to the normative annual plant availability factor.</p> <p><u>Justification:</u></p> <p>For a typical unit size of 210/250/300 MW, one rake of limestone will be sufficient to meet 60 days of consumption. Limestone procurement and transport by partial rake loading to meet consumption for less than 60 days will not be economical as it shall increase transportation expenses. Hence an average 30 days working capital for limestone may be considered.</p>
<p>OPERATION AND MAINTENANCE EXPENSES:</p>		
<p>Amendment of Regulation 35 of the Principal Regulations</p>	<p>16.2. Sub-Clause(7) of Clause (1) of Regulation 35 of the Principal Regulations along with its proviso shall be substituted as under:</p> <p>“(7) The operation and maintenance expenses on account of emission control system in coal or lignite based thermal generating station shall be 2% of the admitted capital expenditure (excluding IDC & IEDC) as on the date of its operation, which shall be</p>	<p>We request the Hon’ble Commission to consider the following & make necessary provisions in the Regulation:</p> <p>i. Increment of O&M Expenses on account of operation and maintenance of emission control system may be allowed at 3% of the admitted capital expenditure (excluding IDC & IEDC) for sub-critical units as on the date of its first year of operation with a suitable annual escalation thereafter.</p>

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	<p><i>escalated annually at the rate of 3.5% during the tariff period ending on 31st March 2024:</i></p> <p><i>Provided that income generated from sale of gypsum or other by-products shall be reduced from the operation & maintenance expenses.”</i></p>	<p><u>Justification:</u></p> <p>a) The Hon’ble Commission has vide Order dated 23.04.2020 in Petition No. 446/MP/2019 provisionally allowed the additional O&M Expenses @2% of the capital cost (including IDC) of FGD system. The same provision may be retained for other super-critical generators.</p> <p>b) However, while the additional 2% of O&M Expenses may be suitable for Super-critical Units, the same is not suitable for meeting the O&M Expenses of smaller Sub-Critical Units since such Units do not have the economies of scale.</p> <p>c) Further, the Hon’ble Commission may note that O&M Expenses of emission control system may require additional cost involvement due to the following:</p> <ol style="list-style-type: none"> 1. Degradation of equipment as the whole system operates in corrosive environment. This may pose major challenges for the generators to ensure availability of emission control system. 2. Higher maintenance cost as a sizeable number of equipment installed for the emission control system is likely to be imported and imported spares are sensitive to forex fluctuations. 3. Implementation of emission control system at existing plants setup may require additional infrastructural support to facilitate smooth operation (for example installation of a dedicated road and gate for trucks carrying gypsum - similar to separate dedicated gates with security personnel that have to be maintained in power plants for ash movement. 4. Insurance cost in the tune of 0.5% of admitted capital cost.

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		<p>ii. We request the Hon’ble Commission to allow the generating companies to offset any actual additional O&M expenses over the normative from the income on account of sale of gypsum and other by-products before passing on the benefits to the consumers.</p> <p><u>Justification:</u></p> <p>In case the actual expenditure made by the generating company cannot be contained within the normative O&M Expenses set by the Hon’ble Commission for each year of the period FY 2019-24, the losses would be borne by the generating company. It is therefore submitted that the generating companies may be allowed to offset such losses from the income generated, if any, from sale of gypsum and other by-products before passing on the benefits to the consumers. Such provision would provide impetus for sale of gypsum for the initial period.</p> <p>iii. The disposal cost of by-product of emission control system if required, in operation and maintenance expenses.</p> <p><u>Justification:</u></p> <p>Simultaneous commissioning of similar limestone-based emission control systems by majority generators in 2022 may pose a challenge for marketability of Gypsum as a by-product. Presently the production and demand of industrial gypsum is limited. However, the once the FGD of the thermal power plants are commissioned it would change the supply chain of gypsum due to sudden high availability of gypsum. In absence of marketability of the entire gypsum produced, disposal of byproduct will be required through filling of abandoned mines or such other method as maybe approved by CPCB. Disposal of</p>

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REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
		byproduct will require additional transportation costs, which may be allowed to be recovered through operation and maintenance expenses during initial 4-5 years. The same may be reviewed in the next control period depending on the experience gathered on marketability of gypsum.
COMPUTATION AND PAYMENT OF CAPACITY CHARGE FOR THERMAL GENERATING STATIONS		
Amendment of Regulation 42 of the Principal Regulations-:	<p>21.2. Clause (5) of Regulation 42 of the Principal Regulations along with the proviso of the said clause shall be substituted as under: -</p> <p>“(5) The Plant Availability Factor for a Month (“PAFM”) shall be computed in accordance with the following formula:</p> <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 10px auto;"> $PAFM = 10000 \times \sum_{i=1}^N \frac{DC_i}{[N \times IC \times (100 - AUX_n - AUX_{en})]} \%$ </div> <p>Where, AUX_n = Normative auxiliary energy consumption in percentage; AUX_{en} = Normative auxiliary energy consumption for pollution control system as a percentage of gross energy generation, wherever applicable; DC_i = Average declared capacity (in ex-bus MW), for the ith day of the period i.e. the month or the year as the case may be, as certified by the concerned load dispatch centre after the day is over; IC = Installed Capacity or (MW) of the generating station; N = Number of days during the period;</p>	<p>We request the Hon’ble Commission to incorporate suitable provision in the Regulations so as to exclude the period of non-availability of the generating unit on account of installation of FGD plant. Hence the shutdown period before the commissioning of the FGD plant should not be considered in the computation of annual availability of the generating unit.</p> <p><u>Justification:</u></p> <p>Existing Generators retrofitting emission control system may lose Capacity Charges during the year when interconnection of emission control system is done with the flue gas system of the plant as a prolonged shutdown is required. Further, the availability of the unit may suffer during stabilization period post commissioning of FGD as the plant O&M engineers have no experience of operating the FGD plant. Hence, while calculating the plant Annual PAF for that particular year, availability loss due to shut down for interconnection of emission control system may be allowed to be excluded from calculation of actual availability for recovery of fixed costs.</p>

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COMMENTS ON DRAFT CERC (TERMS & CONDITIONS OF TARIFF) (FIRST AMENDMENT) REGULATIONS, 2020

REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
COMPUTATION AND PAYMENT OF ENERGY CHARGE AND SUPPLEMENTARY ENERGY CHARGE FOR COAL OR LIGNITE BASED THERMAL GENERATING STATIONS		
<p>Amendment of Regulation 43 of the Principal Regulations:</p>	<p>23.4. A new sub-clause, namely, sub-clause (aa) shall be inserted after sub-clause(a) of clause (2) of Regulation 43 of the Principal Regulations as under:</p> <p>“(aa) Supplementary ECR for coal and lignite based thermal generating stations:</p> <p>Supplementary ECR = $(\Delta \text{ ECR}) + (\text{SRC} \times \text{LPR} / 1000)$</p> <p>Where,</p> <p>$(\Delta \text{ ECR})$ =Difference between ECR with revised auxiliary consumption with emission control system equivalent to $(\text{AUX}_n + \text{AUX}_e)$ and ECR with normative auxiliary consumption as specified in these regulations and revised;</p> <p>SRC = Specific reagent consumption on account of revised emission standard (in gm /kWh);</p> <p>LPR = Weighted average landed price of reagent for emission control system (in Rs/kg)”.</p>	<p>We request the Hon’ble Commission to allow the supplementary ECR based on actual consumption of limestone and reagents since there is limited data available based on which any such norms may be arrived presently.</p> <p>Justification:</p> <p>As the available data on actual consumption of limestone/other reagents in Indian conditions is limited, the normative values may be arrived after 5 years of operation by generators and during that period the actual consumption values needs to be considered during the stabilization of the systems. Similarly, the NO_x control system is still at the pilot stage and as such fixing guidelines for specific consumptions of reagent at this stage would be premature.</p>
NORMS OF OPERATION FOR THERMAL GENERATING STATION		
<p>Amendments of Regulation 49 of the Principal Regulations</p>	<p>25.1 A new sub-clause, namely, sub-clause (bb) shall be inserted after sub-clause (b) of Clause (E) of Regulation 49 of the Principal Regulations as under:</p> <p>“(bb) Auxiliary Energy Consumption (AUX_e) on account of emission control system of thermal generating stations: Auxiliary Energy Consumption (AUX_e) on account of emission control system of thermal generating stations:</p>	<p>We request the Hon’ble Commission consider the following and make necessary provisions in the Regulation:</p> <p>i. Increment in Auxiliary Energy Consumption of wet limestone based FGD system (without Gas to Gas heater) may be allowed to 1.5 % (as % of gross generation).</p>

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REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS																				
	<table border="1" data-bbox="394 384 1046 1050"> <thead> <tr> <th data-bbox="394 384 866 480">Name of Technology</th> <th data-bbox="866 384 1046 480">AUX_{em} (as % of gross generation)</th> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="394 480 1046 523">(1) For reduction of emission of sulphur dioxide:</td> </tr> <tr> <td data-bbox="394 523 866 603">a) Wet Limestone based FGD system (without Gas to Gas heater)</td> <td data-bbox="866 523 1046 603">1.0%</td> </tr> <tr> <td data-bbox="394 603 866 683">b) Lime Spray Dryer or Semi dry FGD System</td> <td data-bbox="866 603 1046 683">1.0%</td> </tr> <tr> <td data-bbox="394 683 866 762">c) Dry Sorbent Injection System (using Sodium bicarbonate)</td> <td data-bbox="866 683 1046 762">NIL</td> </tr> <tr> <td data-bbox="394 762 866 805">d) For CFBC Power plant (furnace injection)</td> <td data-bbox="866 762 1046 805">NIL</td> </tr> <tr> <td data-bbox="394 805 866 885">e) Sea Water based FGD system (without Gas to Gas heater)</td> <td data-bbox="866 805 1046 885">0.7%</td> </tr> <tr> <td colspan="2" data-bbox="394 885 1046 928">(2) For reduction of emission of oxide of nitrogen :</td> </tr> <tr> <td data-bbox="394 928 866 987">a) Selective Non-Catalytic Reduction system</td> <td data-bbox="866 928 1046 987">NIL</td> </tr> <tr> <td data-bbox="394 987 866 1050">b) Selective Catalytic Reduction system</td> <td data-bbox="866 987 1046 1050">0.2%</td> </tr> </tbody> </table> <p data-bbox="380 1074 1066 1193"><i>Provided that where the technology is installed with Gas to Gas heater, AEC specified as above shall be increased by 0.3% of gross generation</i></p>	Name of Technology	AUX _{em} (as % of gross generation)	(1) For reduction of emission of sulphur dioxide:		a) Wet Limestone based FGD system (without Gas to Gas heater)	1.0%	b) Lime Spray Dryer or Semi dry FGD System	1.0%	c) Dry Sorbent Injection System (using Sodium bicarbonate)	NIL	d) For CFBC Power plant (furnace injection)	NIL	e) Sea Water based FGD system (without Gas to Gas heater)	0.7%	(2) For reduction of emission of oxide of nitrogen :		a) Selective Non-Catalytic Reduction system	NIL	b) Selective Catalytic Reduction system	0.2%	<p data-bbox="1090 248 1263 276"><u>Justification:</u></p> <p data-bbox="1090 333 2107 491">In addition to the auxiliary power consumed by the newly installed emission control systems (whose power consumption shall be guaranteed by the supplier), auxiliary energy consumption of the main plant will increase due to the following reasons:</p> <ol data-bbox="1090 523 2107 1495" style="list-style-type: none"> Additional power consumption required on account of cooling water sourced from existing plant system for the new equipment. Additional power consumption required on account of pumping and treatment of makeup water to emission control system from the existing plant water system. Existing plants will require additional auxiliary consumption on account of various common services for emission control system. Due to acute scarcity of water at various locations, emission control system will entail installation of RO plant / ZLD Crystallizer system. Operation of such system will require additional auxiliary consumption. Uncertainty over purity of lime stone and sulphur content of coal - while the auxiliary power increase will be dependent on the quality of limestone actually received as well as the coal quality and both are uncontrollable factors for generators. Additional energy consumption may be required to meet the statutory emission limit based on actual operating conditions and plant PLF. Economy of scale plays a key factor on account of consumption of common facility for emission control system. Auxiliary consumption of emission control system will depend on operating plant load factor of the Units. Hence, we request Hon'ble commission to allow a suitable compensation on account of degradation of auxiliary power consumption (APC) if PLF is reduced below normative PLF.
Name of Technology	AUX _{em} (as % of gross generation)																					
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REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
		<p>ii. Units of smaller sizes consume more auxiliary power in comparison to higher size units. We, therefore, request the Hon’ble Commission to allow additional 0.5% auxiliary consumption for unit size of 210/250/300 MW or lower.</p>
<p>Amendments of Regulation 49 of the Principal Regulations</p>	<p>25.2 A new clause, namely Clause (F) shall be added after Clause (E) of Regulation 49 of the Principal Regulations as under:</p> <p>“(F) Norms for consumption of reagent: (1) The normative consumption of specific reagent for various technologies for reduction of emission of sulphur dioxide shall be as below:</p> <p>(a) For Wet Limestone based Flue Gas De-sulphurisation (FGD) system: The specific limestone consumption (g/kWh) shall be worked out by following formula:</p> $[0.85 \times K \times SHR \times S]/[CVPF \times LP]$ <p>Where, <i>S</i> = Sulphur content in percentage, <i>LP</i> = Limestone Purity in percentage, <i>SHR</i>= Gross station heat rate, in kCal per kWh; <i>CVPF</i> = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based stations less 85 Kcal/Kg on account of variation during storage at generating station;</p> <p>Provided that value of <i>K</i> shall be equivalent to (35.2 x Design SO₂ Removal Efficiency/96%) for units to</p>	<p>The Hon’ble Commission may consider to allow the consumption/quantity of limestone at actuals since there is limited data available on limestone consumption in FGDs in Indian conditions and are based on other factors like technology adopted, reactivity of limestone and PLF of the unit.</p> <p>Justification:</p> <p>a) In our humble opinion, we appreciate that the Hon’ble Commission has already allowed the landed price of such reagents applying applicable statutory charges and transportation cost. However, the Hon’ble Commission may consider to allow the consumption/quantity of limestone at actual. There is a dearth of actual limestone consumption data for wet limestone FGDs specifically for Indian conditions and we feel that normative values may have to be arrived at after 5 years of operation and during that period the actual consumption values need to be considered. Moreover, the specific limestone consumption may vary with other factors like the particular limestone FGD technology adopted, the reactivity of limestone and PLF of the unit.</p> <p>b) Purity of limestone will not be in control of the generators. Major portion of the domestic limestone is having purity less than 85%. Availability of the quality limestone is limited for plants in the eastern region. Generators may have to opt for low quality limestone – based on local availability. Hence ceiling of limestone purity at a minimum of 85% may not be</p>

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REGULATION	PROPOSED AMENDMENT	COMMENTS AND SUGGESTIONS
	<p><i>comply with SO2 emission norm of 100/200 mg/Nm3 or (26.8xDesign SO2 Removal Efficiency/73%) for units to comply with SO2 emission norm of 600 mg/Nm3;</i></p> <p><i>Provided further that the limestone purity shall not be less than 85%.</i></p>	<p>practical to accommodate such huge requirement of limestone for emission control systems in India.</p> <p>c) A measure of Sulphur percentage in coal is required to find out the normative consumption of reagent as proposed by the Hon'ble Commission. It may be indicated whether the Sulphur percentage in coal will be treated as a predetermined quantity or actual monthly weighted average of Sulphur percentage needs to be determined. In case monthly weighted average is required to be determined, testing charges for Sulphur percentage in coal may be allowed as a pass-through item.</p>
<p align="center">FORM 16 OF ANNEXURE I OF PART I (DETAILS OF REAGENT FOR COMPUTATION OF SUPPLEMENTARY ENERGY CHARGE RATE)</p>		
<p><i>Amendment to PART I of Annexure I of the Principal Regulations:</i></p>	<p><i>A new form namely, Form 16A shall be inserted after Form 16 of Annexure-I of Part I of the Principal Regulations.</i></p> <p>.....</p>	<p>We request the Hon'ble Commission to consider the following and make necessary provisions in the Regulation:</p> <p>i. Transit and handling loss of limestone may be allowed as transportation of limestone will entail transit losses similar to coal.</p> <p>ii. Handling cost, charges for third party sampling and applicable statutory charges for lime stone may be allowed.</p> <p>iii. Limestone sampling, Testing and Analysis charges may be allowed as a pass-through item in limestone procurement.</p>
<p>ADDITIONAL POINTS</p>		
<p><i>FGD implementation for projects without PPAs</i></p>		<p>It is humbly requested that the Hon'ble Commission may devise a suitable mechanism for recovery of the entire cost pertaining to those generating units having fully or partial un-tied capacity, for implementing Pollution Control Systems like FGD Plant.</p>

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		<p>Justification:</p> <p>Many generating companies across the country have un-tied capacities owing to lack of long-term PPAs. Due to lack of certainty about cost recovery for additional capital expenditure for installation of FGD, such projects without PPAs, for entire or part capacity, will face difficulties with financing of FGD installation project. Moreover, during the declared implementation period till 2022, such projects with FGD installed will have to sell power at a higher cost than the projects without FGD. This would lead to a situation where these projects with FGD would not get cleared on IEX or on DEEP.</p> <p>To address this issue, the following may be introduced:</p> <p>a) For open capacity being sold on IEX or through DEEP, the bidding would be without considering FGD costs. An additional FGD installation reimbursement cost notified by the Hon’ble Commission (based on the benchmark costs for FGD by CEA) will be collected from all the procurers on per unit basis and paid to the generators with FGD.</p> <p>In case of medium-term contracts through DEEP portal, the generator with FGD commissioned during the tenure of the contract - may be reimbursed on and from the date of compliance to SO_x norms. The total tariff i.e. fixed and variable costs per unit as determined for similar capacity units under Section 62 shall be payable.</p>
<p><i>Recovery of cost of additional items</i></p>		<p>We request the Hon’ble Commission to define a suitable mechanism for cost recovery of the following items:</p>

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		<ul style="list-style-type: none"><li data-bbox="1099 248 2119 368">i. Lime stone/reagent consumption during an estimated 3-month trial operation of emission control systems prior to declaration of date of commissioning.<li data-bbox="1099 424 2119 539">ii. Actual additional auxiliary consumption of the unit during the trial operation period of emission control systems prior to declaration of date of commissioning.