

JSW Energy Limited's Comments and Suggestions on CERC's Staff Paper on Mechanism for Compensation on account of change in law for compliance with Revised Emission Standards notified by MoEF&CC in respect of Competitively Bid Thermal generating dated 5th Sept 2020

Sl. No	Clause of Staff Paper	Proposed clause	Suggestions/ Comments
1.	<p>4.1</p> <p>Compensation during operation period would require estimating the following impacts:</p> <p>A) Impact due to additional capital expenditure;</p> <p>B) Impact due to additional Operation & Maintenance expenses and additional Interest on Working Capital;</p> <p>C) Impact due to consumption of reagent; and</p> <p>D) Impact due to additional auxiliary energy consumption.</p>	<p>It is suggested that the Hon'ble Commission may also allow following compensations:</p> <ul style="list-style-type: none"> • Recovery of Deemed Fixed Charges during shutdown period for installation of FGD with power plant • Transit and handling loss of limestone may be allowed as transportation of limestone will entail transit losses similar to coal. • Limestone sampling, Testing and Analysis charges by Third party • Additional Insurance Charges 	<p>It is observed that there are no provisions related to recovery of Fixed Charges of the power plant during the period the plant is under shutdown on account of implementation of FGD and other equipment which would lead to regulatory issues and unnecessary litigations would be created.</p> <p>Therefore, it is requested that additional provision shall be incorporated to provide the recovery of fixed charges during the shutdown period.</p> <p>Further, it is submitted that the generator would incur additional expenditures on account of procurement of limestone which would include transit & handling losses, third party sampling charges etc. Same should be allowed to be recovered as permitted for coal.</p> <p>Further, any additional expenses towards insurance for ECS should also be allowed to recover.</p>

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2.	4.9. Based on the above, life of 25 years has been considered for ECS. Accordingly, 90% (considering salvage value of 10%) of additional capital expenditure on account of installation of ECS is proposed to be recovered by the generating company in 25 years as depreciation {straight line method @3.6% (90%/25) per year} starting from ODe of ECS	Request CERC to compute depreciation considering a life of ECS as balance life of PPA from the commissioning of FGD.	<p>As you aware, many generating stations have already been in operation for a few years and the remaining useful life in case of such generating stations is less than 25 years. Further, each of the projects has its own challenges with respect to operating beyond 25 years, such as availability of coal, water, efficiency of technology, etc. In fact, there is an emerging trend where plants have been retired before 25 years life on account of technology and performance issues to allow other efficient plants to operate.</p> <p>CERC while considering the useful life of ECS as 25 years, has been assumed that after the expiry of useful life of 25 years, well maintained generating stations operate efficiently for another 10 to 15 years by incurring marginal expenditure towards Renovation & Modernization. It may be noted that any extension of period beyond expiry date of PPA is on mutual agreement between Buyer & Seller. However, under present circumstances, the continuation of PPAs may be highly unlikely due to uncertainty on continuation of long-term coal FSAs after expiry period and likely</p>

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			<p>integration of large amount of Renewable PPAs by Discoms.</p> <p>Further, for servicing the debt of smaller duration say 12-15 years for plants having life lower than 25 years, higher value of depreciation should be allowed for sustainable debt repayment.</p> <p>In view of the above, it is suggested that Hon'ble Commission may consider the 90% of additional capital expenditure (considering salvage value of 10%) on account of installation of ECS to be recovered by the generating company in balance life of PPA as depreciation per year {as per straight line method} starting from COD of ECS.</p>
3.	4.11. Accordingly, additional capital expenditure on installation of emission control system is proposed to be serviced on Net Fixed Assets (NFA) basis (value of fixed assets reducing each year by the depreciation value) @ weighted average rate of interest of loans raised by the generator or at the rate of Marginal Cost of Lending Rate of State Bank of India (for one year tenor) plus 350 basis points, as on 1st April of	<p>It is proposed that the rate of interest on loan for installation of emission control system to be the weighted average rate of interest of actual loan portfolio of the emission control system and there should not be any capping in terms of SBI plus 350 basis points.</p> <p>Return on equity in respect of additional capitalization on account of emission control system shall be</p>	<p>It is submitted that Developer would have tie up with different lenders and rate of interest charged by various bankers/ lenders depends upon various factors such as credit rating of company, financial positions of the generating company etc. Hence, it is suggested that interest on loan should be allowed as weighted average rate of interest of actual loan portfolio without any cap of the rate of interest to 1 year MCLR + 350 basis points</p>

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	the year in which emission control system is put into operation, whichever is lower.	15.5% and the base rate of return on equity shall be grossed up with the effective tax rate of the respective financial year and shall be computed as per the formula: Rate of pre-tax return on equity = Base rate / (1-t)	Further, as you aware, any additional capital expenditure would be depending upon 2 factors – Debt and Equity which may be serviced on basis of ratio of 70:30. Any significant capex would require promoter’s equity. Therefore, it is suggested that Return on equity of 15.5% in respect of additional capitalization on account of emission control system shall be allowed which is inline with CERC Tariff Regulations 2019 and the base rate of return on equity shall be grossed up with the effective tax rate of the respective financial year and shall be computed as per the formula: Rate of pre-tax return on equity = Base rate / (1-t).
4.	4.13 On similar lines, it is proposed that additional O&M expenses (AREo&m) for first year may be allowed @2% of additional capital expenditure (ACEECS) for installation of ECS (excluding IDC and FERV), admitted by the Commission after prudence check. For subsequent years, the first year O&M expenses (AREo&m) may be esclated @3.5% or any other escalation rate as may be specified by the Commission. The above O&M expenses may subsequently be reviewed based on	Additional O&M should be at least 4- <u>5%</u> of additional capital expenditure for installation of ECS for initial years.	As you aware, installation of FGD would require very high maintenance due to use of highly abrasive raw material like limestone and generation of gypsum as byproduct specially during initial period of stabilization the maintenance cost would be high. Hence the proposed O&M expenses at 2% of additional capital expenditure for ECS would not be adequate to recover the actual O&M expenses during first few years. Therefore, it is proposed that the O&M expenses for ECS system may be allowed at

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	actual O&M expenses of ECS installed at various generating stations.		<p>4-5% of additional capital expenditure (ACEECS) for installation of ECS for initial years of installations and for subsequent year same may be escalated @ 3.5% or any other escalation rate linked to CPI/ WPI.</p> <p>Further, existing O&M expenses should also include expenses incurred by the project developers in litigations, environmental issue and other legal expenses and such Expenses should be allowed as a pass through in the tariff.</p>
5.	<p>4.14. Working capital may include:</p> <p>i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor and advance payment for 30 days towards cost of reagent for generation corresponding to the normative annual plant availability factor;</p>	Normative Interest on Additional Working Capital at the bank rate (one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points) as on 1st April of the year shall be allowed.	<p>The present provisions silent on rate of interest applicable for additional working capital requirement arising out of installation of ECS by way of additional Cost of limestone or reagent cost & additional O&M cost etc.</p> <p>It is suggested to allow normative interest rate of 1 year MCLR of SBI + 350 basis points for additional IWC</p>
6.	4.16. Some kind of reagent is required to be used in ECS to meet the norms as specified by the 2015 Rules. CEA (Central Electricity Authority) has suggested the norms of specific reagent consumption (grams/kWh). The norms of specific reagent consumption and	No reagent charges for sea-water based FGD has been considered. Sea-water FGD requires various treatment for correction of pH before its discharge back to sea. The cost for the same should be considered.	The draft paper does not consider any reagent charges for sea-water based FGD, however sea-water FGD requires treatment like Biocide / ClO ₂ , Scale Inhibitors, Biodispersent etc. Such Sea-water is also treated with Caustic for correction of pH before its discharge back to sea. The cost for

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	<p>auxiliary energy consumption as specified by CEA, for different variants of FGD system, SNCR system and SCR system, have been indicated at Annexure-I to this Staff Paper.</p> <p>Annexure 1 (e) For Sea Water based Flue Gas Desulphurisation (FGD) system: The reagent used is sea water, therefore there is no requirement for any normative formulae for consumption of reagent.</p>		<p>the same should be considered in lieu of reagent.</p>
7.	<p>4.18. The ex-bus energy charges quoted by the generating company will undergo change due to additional auxiliary energy consumption on account of installation of ECS.....</p> <p>Annexure -1 - Additional Auxiliary consumption</p> <p>Wet Limestone based FGD system (without Gas to Gas heater) - 1%</p>	<p>Additional Auxiliary consumption should be linked to Units size</p>	<p>It is submitted that the additional auxiliary power consumption for FGD system would also depend on the unit sizes and it would not be appropriate have a standardized parameter just based on the kind of FGD technology used. For instance, Wet lime stone based FGD system for 660 MW unit size additional APC would be in range of 1% - 1.2% but for similar FGD technology used for 300 MW units the additional APC would be in range of 1.3%-1.5%.</p> <p>Hence, the it is suggested that the auxiliary consumption may be specified for different size of generating units.</p>

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8.	5.3. The recovery of monthly Supplementary Energy Charges (SECM) will be made by applying following formula: $SECM \text{ (Rs.)} = AEOm \times [(SRC)/(1-AUXTotal)] \times LPR / 1000$	It is suggested that cost of Additional water consumption and By-product handling cost would be allowed under Supplementary energy charges.	<p>CEA in its notification for norms of cost for installation of FGD has also recommended following:</p> <p>“Operating Cost (OPEX) of FGD will be dependent on Reagent cost (if any), cost of Additional water consumption, O&M Manpower cost, APC of FGD, By-product handling and revenue earned through disposal of by-product (if any) etc.”</p> <p>In view of the above, it is suggested that Supplementary Energy charge should also include the following</p> <ul style="list-style-type: none"> • Cost of additional water required for emission control system • Water treatment cost and waste water disposal cost • Byproduct disposal handling cost
9.	5.4. - PPAs already have a procedure for payment of Bills and there is no need to devise any separate procedure for the purpose of payment of monthly Supplementary Capacity Charges and monthly Supplementary Energy Charges. The generating company may raise the Bill for payment on account of operation of ECS in the same manner as any other bill provided in the PPA and such Bill shall be paid by the	Staff paper should provide clause related to strict compliance of payment of monthly Supplementary Capacity Charges and monthly Supplementary Energy Charges on account of ECS.	<p>You would appreciate the fact that such huge capex on installation of ECS would result additional burden on the generators/ developers and any delay in payment of monthly supplementary capacity and energy charges on account of operation of ECS by Discoms/ buying entity would create power plant as a stress asset.</p> <p>As you aware, various existing change in law claims on account of change in rates of coal</p>

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	<p>procurer(s). Provisions related to Due Date, Rebate, Late Payment Surcharge etc. will be as provided in the PPAs.</p>		<p>or any other change in law claims of generating companies would take lots of time as such claims would require considerable regulatory time.</p> <p>Therefore, it is suggested that the strict clauses for payment of CIL claims along with provision of Late Payment Surcharges may be included to off-set any loss caused to the petitioner in the event of delay in recovery of such additional cost incurred.</p>