Comments on draft suo-moto order proposing mechanism to determine Compensation on account of installation of ECS in Compliance of the Revised Emission Standards of the Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC) in respect of Thermal Power Generating Stations whose tariff is determined through Competitive Bidding under Section 63 of the Electricity Act, 2003

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CERC vide its suo-motu draft order ("Draft SM Order") dated 12/04/2021 has retained many of the provisions mentioned in the staff paper, in spite of detailed comments / suggestions from all stakeholders. Major issue to be addressed for ensuring timely compliance of the revised emission standards is bankability of FGD project.

Many Thermal Power Plants falling under Section 63 tariff category are already reeling under huge financial stress and COVID-19 pandemic has further aggravated the stress. Skewed cashflows and low tariffs have made it impossible to consider funding of FGD project from internal accruals and the projects are left with only option of external funding.

It is essential to note that in the present scenario none of the lenders are willing to fund FGD project considering 25 years as lifetime of FGD for capex recovery in the absence of clear visibility of revenue stream after the initial PPA term. With ambitious targets for Renewable Power capacity addition and anticipated technology evolution towards development of competitive storage solutions; there is no certainty with regard to renewal of PPA term for coal-based projects.

Draft SM Order issued by the Hon'ble Commission falls short of presenting a bankable dispensation and may elongate the timeline for arranging capital (debt and equity) for implementing ECS. With this backdrop, we once again provide our comments on various provisions of the Draft SM Order issued by Hon'ble CERC for kind consideration.

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1	**Depreciation (DEPe) and Useful Life**	**4.9-** 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	34. We are of the view that the useful life of the generating station is to be considered 40 years in line with the Companies Act, 2013. The Commission has considered the useful life of the generating station based on life cycle of major equipment of thermal generating station. The life of emission control system has been considered as 25 years in line with the	1. Majority of PPAs executed under Sec 63 are based on Competitive Bidding Guidelines 2005 and amendment 2010 (refer point no 2 of Draft order), wherein the Useful life of coal based projects are considered as 25 years [5.4 (i) of Competitive Bidding Guidelines 2005 and revision 2010] and bidders have quoted tariff for recovery accordingly. 2. A mechanism for Competitively Bid Thermal Generating Stations towards compliance of the Revised Emission Standards needs to deal with primarily two aspects of tariff compensation viz.

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		from ODe of ECS.	other major equipment of generating station. The Commission observes that as on today, there are no generation projects with competitively bid tariff which have completed more than 15 years of life. Therefore, based on 40 years of life of generating stations, in all cases 25 years of life of emission control system would be available for recovery of depreciation. Thus, the proposed approach for recovery of depreciation in 25 years balances the interest of the generating companies and procurers. 35. Accordingly, in all cases irrespective of balance useful life of the generating plant, 90% of additional capital expenditure on account of installation of ECS (considering salvage value of 10%) shall be recovered by the generating company in 25 years as depreciation (straight line method @3.6% per year). The depreciation shall be computed from the date of putting the emission control system into use after meeting all applicable technical and environmental standards, certified through the Management Certificate duly signed by an authorised person. The value base for the purpose of depreciation shall be the additional capital expenditure of the emission control system as admitted by the Commission. In case of gradual installation of emission control system for different emission standards or for multiple units, weighted average life shall be considered to work out depreciation. The computation of depreciation during each year of the contract period shall	a. Operational costs recovery; and b. Capital Cost recovery. 3. Accordingly, the provisions need to be tested on bankability i.e. whether the proposed tariff parameter is capable of creating a viable business case for the IPP developer and its lenders. It is therefore essential that all public sector and private sector banks / financial institutions and sector-focused lending institutions such as PFC / REC need to test the tariff suggestions on the aspect of bankability. 4. It is only in the past when RBI allowed flexible structuring of infrastructure loans, when banks showed willingness to consider nearly 85% of PPA period as a final maturity period for long-term loans. This feature is not necessarily a common feature of all long-term IPP financing and is not to be misconstrued as banks being very enthusiastic to extend loans with maturity of 25 years. Left to the banks, they will be most happy if no further debt funding exposure is required to be taken on a given IPP considering pre-existing challenges of stretched debt service coverage levels, absence of DSRA, cost under-recoveries, etc. 5. In its most stretched long-term loan scenario, lenders have, in some cases under the above-mentioned 5/25 flexible structuring of loans, have provided debt financing upto 21 years, leaving a four year tail period, for a power project with 25 year PPA having provision for PPA extension on mutual basis. 6. Hence a loan for FGD can at best cover a period that leaves a tail of 2 to 4 year for PPA term to get over. In the post COVID-19 scenario, lenders' outlook towards IPP funding has not improved, but it has further nosedived. 7. Further, with renewable tariffs coming down significantly, there is a lack of debt funding for coal-fired plants even in domestic financing markets / banks. Lenders, including PSU Banks, are looking to reduce their exposure to power sector, especially coal-based power generation sector. 8. There is hardly any international equity or debt available for coal-fired power sector investments. 9. The fund required for FGD in most competitively bid projects cannot be met out of the available cash flows (it is a well-recorded fact that competitively bid projects have tariffs which are significantly lower than the section 62

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			be worked out by the parties directly based on admitted capital cost and the depreciation rate as follows: DEPe = (0.036) x ACEe Where, ACEe is the gross capital cost (in Rupees) of emission control system as admitted by the Commission ; DEPe is annual depreciation in Rupees.	projects and many have already faced debt defaults and haircut by lenders) and the projects have to look at the markets to provide for both sources of funding to finance equity investments and debt funding for implementing ECS. 10. Under such circumstances, when there is an uncertainty on long-term continuity of coal-fired plants, unavailability of debt and equity funding for implementing ECS, we would request the Hon'ble Commission to create an enabling environment for attracting funding rather than developing regulations which will make it difficult to implement the environment technologies to meet the new Environmental norms. 11. Hence we would request the Hon'ble Commission to compute depreciation considering a debt repayment over balance PPA term while leaving a 2 to 4 year tail period. 12. 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. There is a situation of excess supply / lack of demand, especially for coal-based power. **13. Hence it is proposed that 90% (considering salvage value of 10%) of additional capital expenditure on account of installation of ECS is recovered by the generating company as a depreciation over the balance PPA period** a. **while ensuring that the amount required for debt repayment (i.e. 70% of ECS cost) is recovered in the balance PPA, leaving a tail period of 4 years.**
2	**Cost of Additional Capital Expenditure (COCe)**	**4.11**- 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	40. The servicing of capital employed during each year of the contract period shall be worked out based on net fixed asset (derived by adjusting cumulative depreciation of emission control system) and interest rate of fund. The interest rate will be weighted average rate of interest on loans of the	It is very clear that the manner in which the CAPEX for ECS is going to be funded has not been considered while making suggestions regarding cost of capital employed. Are financing markets – banks / institutions / equity providers going to fund the ECS capex on overall capital employed basis?

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		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 the year in which emission control system is put into operation, **whichever is lower.**	generating station including ECS or at the rate of Marginal Cost of Lending Rate of State Bank of India (for one year tenor) as on 1st April of the year under consideration plus 350 basis points, whichever is lower. The generating companies shall workout the applicable interest rate for the cost of capital employed towards emission control system for the year under consideration. The cost of capital employed during the year shall be worked out as follows: COCe(n) = NFA(n) x WAROI(n) /100 Where NFA(n) = ACEe – [(n-1)X (DEPe)]	This is especially true when the sources of debt funding and equity funding are both scarce & distinct, have distinct risk appetite and have distinct return expectations. When financial markets are stable and end-use sectors send signals of regulatory certainty, only then securing funding on an overall capital employed basis with equity not commanding any significant premium over debt cost can be envisaged. This has been hugely researched subject and Hon'ble Commission has examined it on numerous occasions in the past. Time to revisit this will be when main tariff regulations are being reviewed by the Hon'ble Commission for control period starting April 2024 and not as an opportunity for considering a different financing approach for funding ECS capex. Current financing scenario in the country, especially against the backdrop of COVID-19 and power sector outlook are nowhere near such an idealistic thinking and it is disheartening to note that this perspective is grossly missing in the current set of proposals. Adoption of proposed mechanism as mentioned below should not be viewed as a mechanism to improve the financial health of the plants (as captured by commission in draft order), it is rather a big enabler in funding of the ECS Capex and timely compliance of the norms. The additional capital expenditure of emission control system may be serviced generally on the basis of debt to equity ratio of 70:30 i.e. max. equity of 30% can be considered for funding ECS Capex. If an IPP in question is able to arrange higher debt funding for ECS Capex, such higher level of debt funding can be considered (higher than 70%). **Rate of interest for debt** 1. The rate of Interest charged by the lenders depends on

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				various factors which inter alia include, credit rating of the company, liquidity position of the company, existing financials of the generating project for which ECS is to be installed, promoter profile, etc. 2. Credit rating for many of the competitively bid projects have been influenced by the negative view that rating agencies have on the counter-parties (distribution utilities) as well as the overall negative outlook for coal-fired power plants emerging from number of bankruptcy cases. 3. Hence it would not be appropriate to Cap the rate of interest to one year MCLR+350 basis points. Banks / FIs need to be asked whether they are putting such cap on interest rates, if not, we are creating a compensation (tariff) mechanism which has in-built under-recovery of financing costs, a scenario wherein lenders will not want to sanction any loan. 4. Hence 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 or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered. **Return of Equity** 5. Moreover, unlike routine additional capex, FGD implementation involves significant capex and would require promoters / equity holders to inject additional equity capital. It will be impossible to attract this additional capital unless broad sector rate of return is provided. 6. Even where, equity is funded by internal accruals, the proposed provision would mean that the return to the existing equity investors will be less than the cost of such equity capital. 7. As such, coal-fired power sector is not able to attract international investors for environmental reasons, if it becomes unattractive for even domestic investors, then power companies will find it very difficult to raise the equity required for FGD implementation and thereby delaying the ECS implementation.

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				8. Above all, regulatory certainty is of utmost importance for stakeholders and the cost recovery structure proposed in staff paper will also mean that it will be impossible to finance with 70:30 debt equity ratio as proposed equity return will not enable requisite DSCRs required for achieving financial closure for ECS Projects on a standalone basis. 9. As such, power sector is already facing severe stress. Under the current circumstances arrangement of equity for meeting new environmental norms itself is a challenge. 10. Hence regarding RoE it is proposed as under The Base return on equity in respect of additional capitalization on account of emission control system shall be at a specified premium of 3% p.a. over the applicable debt funding costs. This will also enable raising quasi equity / subordinated debt kind of funding to finance equity component of ECS Capex. 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 given below: Rate of pre-tax return on equity = Base rate / (1-t)
3	**Additional Operation & Maintenance Expenses (O&Me)**	**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	44. Accordingly, we propose that the additional revenue expenses for operation and maintenance (O&Me) for the first two years of operation (including part financial year), shall be based on 2% of the additional capital expenditure (ACEe) for installation of ECS (excluding IDC and FERV) as admitted by the Commission, to be escalated at the rate of 3.5% per annum for the second year. The O&M expenses from the third year onward shall be as per norms and escalation rate determined separately by the	1. FGD would require very high maintenance due to use of highly abrasive raw material like limestone and generation of gypsum as a byproduct. 2. Hence the proposed O&M expenses at 2% of additional capital expenditure for ECS is **grossly inadequate** to cover the actual O&M expenses. 3. Moreover since we do not have experience about O&M cost requirement of the ECS, it would be prudent if we allow the actual O&M cost incurred by the generators for the initial two years of operation of ECS and subsequently notify the norms based on the experience gained. 4. It is admitted fact by the Regulators that linking O&M cost norm to Capital Cost is not the effective method and

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		subsequently be reviewed based on actual O&M expenses of ECS installed at various generating stations.	Commission. The additional O&M expenses (O&Me) shall be worked out as follows: First Year: 2% of ACEe excluding IDC and FERV Second Year: 2% of ACEe escalated at the rate of 3.5%. Third Year onward: As per norms to be specified by the Commission.	same may be notified on per MW per year basis after gaining experience on actual O&M cost requirement. 5. Hence it is proposed that the O&M expenses for ECS system may be allowed at actual for first two years of operation of ECS and subsequently notify the norms on per MW per year basis as per the data collected on actual O&M cost incurred during first two years of operation of ECS. 6. Moreover year on year escalation in normative O&M cost may be determined linking it to WPI and CPI.
4	**Additional Interest on Working Capital (IWCe)**	**4.14-** (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; (ii) Operation and maintenance expenses in respect of emission control system for one month and maintenance spares @20% of operation and maintenance expenses in respect of emission control system; and (iii) 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.	46. We are of the view that the working capital requirement suggested in the staff paper is appropriate. Accordingly, it is proposed that interest on working capital shall be interest 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 the year for which compensation is to be determined. 47. The Working Capital (WCe) shall include following components: (i) Cost of lime stone or reagent for stock of 20 days corresponding to the normative annual plant availability factor; (ii) Advance payment for 30 days towards cost of lime stone or reagent for generation corresponding to the normative annual plant availability factor; (iii) Operation and maintenance expenses in respect of emission control system for one month; (iv) Maintenance spares @20% of	In respect of calculation of Additional Interest on working capital (Additional IWC) following may be considered 1. The cost of limestone for the first financial year after Date of Operation (ODe) of ECS shall be considered based on landed limestone cost and limestone purity as per actual weighted average for three months, as used for commissioning of ECS, preceding ODe. 2. For the Second financial year onwards after ODe, the cost of limestone for emission control system shall be based on the landed limestone cost by the generating station and the purity of the limestone as per actual weighted average for the third quarter of preceding financial year in case of the financial year for which Additional IWC is to be determined: 3. While computing Receivables at 45-days of supplementary capacity charge and supplementary energy charge, receivables for supplementary energy charge shall be **based on charge calculated on normative plant availability factor or actual PLF whichever is higher.** **4.** Rate of interest on working capital shall be actual average working capital interest rate paid by the generator for the preceding financial year or 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, **whichever is higher.**

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			operation and maintenance expenses in respect of emission control system; and (v) 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.	5. Additional IWC shall be payable on normative basis notwithstanding that the generating company has not taken loan for working capital of ECS from any outside agency.
5	**Additional Operational Expenses due to Consumption of Reagent (AOE_{COR})**	**4.16-** The cost of reagent per unit of electricity generated at generator terminal of the generating station shall be calculated based on the specific reagent consumption (grams/kWh) and landed price of the reagent at the generating station.		
6	**Additional Capacity Charges due to additional Auxiliary Energy Consumption (ACCe)**	**4.18-** 1. $NECC_{Mod}$ = NECC x (1-AUX_{Org}) / (1-AUX_{Total}) 2. ECC_{Mod} = ECC x (1-AUXOrg) / (1-AUXTotal) Where,- NECC- Quoted Non-Escalable Capacity Charge ECC- Quoted Escalable Capacity Charges $NECC_{Mod}$ – Modified Non-escalable capacity charges ECC_{Mod-} Modified escalable capacity charges	53. We have considered the suggestions and comments of the stakeholders. Accordingly, it is proposed that the additional capacity charges due to emission control system (ACCe) shall be arrived at based on Quoted Capacity Charges by applying the following formulae: Additional Capacity Charges due to increase in auxiliary Consumption (ACCe) (in Rs/KWh) = Quoted Capacity Charge X ((1−AUXo)(1−AUXt))-1 Where, Quoted Capacity Charge is sum of Quoted Escalable and Non- Escalable Capacity Charges in the contract year in accordance with the PPA; AUXt is the Total Auxiliary energy	1. There is no ECS operating experience in the country regarding ECS as acknowledged by this Hon'ble Commission in Draft SM Order at para 43 and hence CEA may be advised to consider actual additional auxiliary consumption due to ECS monitored for initial period of 3-4 years and based on the data collected for different Unit ratings, norms for additional aux. energy consumption for ECS may be notified subsequently for different unit ratings. Till the time such norms are notified by the CEA based on actual experience gained during initial period of 3-4 years, Hon'ble Commission may allow the actual additional aux. energy consumption as pass through. 2. Commission may also please publish the Unit rating wise Additional energy consumption (AUXe) to be specified by the Central Electricity Authority. 3. Hon'ble commission can ensure that CEA specified additional energy consumption is more realistic or as per actual considering the lack of experience at present in operation of ECS. 4. Commission may also clarify the original Auxiliary energy consumption to be considered in case Power Station Net

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		Availability (%) = (Availability declared in respect of revised capacity in MW × 100)/ Revised Contracted Capacity	consumption and is equal to (AUXo + AUXe) AUXo is the original Auxiliary energy consumption as agreed under the definition of Power Station's Net Capacity or otherwise; and AUXe is the Additional energy consumption due to emission control System as specified by the Central Electricity Authority and admitted by the Commission from time to time.	Capacity is not defined under PPA.
7	**Additional Energy Charges due to additional Auxiliary Energy Consumption (AECe)**	**4.25-** Escalable Energy Charges (EEC) EEC_{Mod} = EEC x (1-AUX_{Org})/(1-AUX_{Total}) Non-Escalable Energy Charges (NEEC) $NEEC_{Mod}$= NEEC x (1-AUX_{Org})/(1-AUX_{Total}) **4.27.**- As such, except for the change in formulae for calculating availability (%) and revision of components of quoted tariff as discussed above, all other terms, conditions and methodology for recovery of original capacity and energy charges as per respective PPAs shall prevail.	63. Suggestions of stakeholders have been received mainly on computation. The need for additional energy charges due to impact of additional auxiliary energy consumption has been accepted by all the stakeholders. Accordingly, we are of the view that additional energy charges (AECe), due to additional auxiliary energy consumption of emission control system, shall be arrived at based on Quoted Energy Charges by applying the following formulae: Additional Energy Charges (AECe) = Quoted Energy Charges x ((1−AUXo)(1−AUXt)) -1 Where, Quoted Energy Charges is sum of Escalable and non-Escalable Energy Charges in Rs/KWh.	1. Commission may also publish the Unit rating wise Additional energy consumption (AUXe) as specified by the Central Electricity Authority. 2. Hon'ble commission can ensure that CEA specified additional energy consumption is more realistic or as per actual considering the lack of experience at present in operation of ECS. 3. Commission may also clarify the original Auxiliary energy consumption to be considered in case Power Station Net Capacity is not defined under PPA.
8	**Recovery of**	**5.1.**- The Supplementary Annual	70. Accordingly, per unit	1. As per provision of IEGC, availability shall be declared as a

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	Supplementary Capacity Charges	Capacity Charges (SACC) shall be payable by following procedure 1) The $SACC_{PPA}$ (Rs. in lakhs) will be converted into per unit charges by applying following formula: Supplementary capacity charge rate (Rs./kWh) = [$SACC_{PPA}$ x 10^5 / {$CC_{Revised}$ x 1000 x (1-AUX_{Total}) x NA x Total hours in the year] Where NA is normative availability in percentage (%). 2) By applying the above value of the Supplementary capacity charge rate (Rs./kWh), the generating company, based on the formulae or methodology for recovery of quoted non-escalable capacity charges as indicated in the PPA, shall recover the supplementary capacity charges on monthly basis depending upon the cumulative availability achieved till the end of each month. No supplementary incentive shall be allowed to the generating company for declaring the availability beyond the normative availability. The availability and payment of supplementary capacity charges shall be reconciled on annual basis. 3) Notwithstanding the availability declaration by the generating	supplementary capacity charges shall be worked out as under: SFC(m) = AFEe + ACCe (in Rupees per KWh) By applying the above value of the Supplementary Capacity Charge rate (Rs/KWh), the generating company shall recover the supplementary capacity charges on monthly basis under each PPA depending upon the cumulative availability achieved till the end of each month. No supplementary incentive shall be allowed to the generating company for declaring the availability beyond the normative availability. The availability and payment of supplementary capacity charges shall be reconciled on annual basis. Irrespective of the availability declaration by the generating station, <u>if the generating company has operated the generating station without operation of the ECS for any period of time, the supplementary capacity charges shall be payable corresponding to the availability achieved by ECS only</u>. If the contract period as per PPA is less than the useful life of the emission control system, the obligation of the procurer shall be limited to its contract period and contracted capacity	whole for entire thermal power plant including all ancillaries and it would be very difficult to maintain separate availability declarations for individual equipment including ECS and hence the recovery should be linked with normative availability of thermal power plant as a whole as per PPA 2. It is the obligation of Procurer to reimburse the total Change in Law expenses during the term of PPA and to restore the economic position of Generator, as if the Change in Law would not have occurred. The term of PPA is fixed under PPA and extension of the same would be at the discretion of Discoms. Hence, it is the obligation of Procurer to reimburse the total Change in Law expenses during the term of PPA, irrespective of useful life of individual equipment.

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		station, where the generating company has operated the generating station without operation of the ECS at any period of time, for any reason whatsoever based on instruction of CPCB or SPCB, Regional Load Despatch Centre or State Load Despatch Centre, the supplementary capacity charges shall be payable corresponding to the availability achieved by ECS.		
9	**Recovery of Supplementary Energy Charges**	**5.3.**- The recovery of monthly Supplementary Energy Charges (SECm) will be made by applying following formula: SEC_m (Rs.) = AEO_m x[(SRC)/(1-AUX_{Total})] x LPR / 1000) Where, AEO_m is the scheduled energy during the month 'm' (in kWh) SRC is the specific reagent consumption on account of emission control system (in g/kWh) for a unit generated at generator terminal. This shall be normative number recommended by CEA for different variants of the ECSs as indicated in *Annexure-I*. LPR is the weighted average landed price of reagent for ECS (in Rs./kg).	71. Per unit Supplementary Energy Charges on account of installation of the emission control system shall be computed on the basis reagent consumption and additional quoted energy charges. Monthly Supplementary Energy Charges (SEC(m)) shall be computed as follows: (SEC(m)) = AEO(m) X [CORe/(1-AUXt) + AECe] Where, AEO(m) is scheduled energy during the month 'm' (in kWh); CORe is additional operational expense due to specific reagent consumption on account of emission control system (Rs. per KWh) AUXt is Total Auxiliary Energy consumption	Supplementary Energy charge should also include the following 1. cost of additional water required for emission control system 2. Water treatment cost and waste water disposal cost 3. Byproduct disposal cost CEA has also recommended above additional O&M expenses in respect of wet limestone based FGD emission control system which is mentioned in the order by Hon'ble CERC, dated 11th November 2019 in the petition no 152/MP/2019 (Maithon Power Limited). It is disheartening to note that this crucial aspect stands unaddressed and thereby threatens very recovery of operating costs. Lenders will not like to go ahead with FGD financing when they clearly see that recovery of such operating costs as enumerated above is not addressed in the proposed compensation (tariff) mechanism.

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			AECe is Additional Energy Charge due to additional Auxiliary Energy Consumption (Rs. per KWh)	
10	**Procedure for Payment of Supplementary Capacity & Energy Charges**	**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 procurer(s). Provisions related to Due Date, Rebate, Late Payment Surcharge etc. will be as provided in the PPAs.	66. The model power purchase agreements issued by the Central Government as part of standard bidding guidelines provides the mechanism for payment of compensation of change in Law as under: "13.4.2 The payment for Changes in Law shall be through Supplementary Bill as mentioned in Article 11.8. However, in case of any change in Tariff by reason of Change in Law, as determined in accordance with this Agreement, the Monthly Invoice to be raised by the Seller after such change in Tariff shall appropriately reflect the changed Tariff." 67. In line with the same philosophy, it is proposed that the compensation for capacity charges shall be recovered on monthly basis in the form of Supplementary Capacity Charges and the compensation for energy charges shall be recovered in the form of Supplementary Energy Charges.	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 procurer(s). Provisions related to Due Date, Rebate, Late Payment Surcharge etc. will be as provided in the PPAs. **Payment Security Mechanism – needs to suitably cover enhanced value of monthly billing in terms of enhanced value of Letter of Credit /enhanced quantum of Cash flows identified under Escrow Mechanism, etc.**
11	**Norms for consumption of reagent:**	**Annexure-1- 2.(1)** **(a) For Wet Limestone based Flue Gas Desulphurisation (FGD) system:** The specific limestone consumption (g/kWh) shall be worked out by following formula: = [0.85 x K x SHR (kCal/kWh) x S (%)]/[GCV (kCal/kg) x LP (%)] Where,	SRCe is the specific reagent consumption on account of emission control system (in grams/KWh) for a unit generated at generator terminal. This shall be normative number recommended by CEA for different variants of the ECS;	Commission may please clarify the basis for normative reagent consumption which should factor the following comments on the Formula which was proposed in the Staff Paper: Formula which was proposed in the staff paper was recommended by CEA. As per the said formula normative consumption of reagent for wet limestone based FGD would have resulted into to 25% to 30% lower consumption as compared to the guaranteed reagent consumption offered by majority of vendors of wet limestone based FGD.

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		S = Sulphur content in percentage, LP = Limestone Purity in percentage; Provided that value of K shall be equivalent to (35.2 x Design SO2 Removal Efficiency/96%) for units to 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; Provided further that the limestone purity shall not be less than 85%. 2.(2) **(a) For Selective Non-Catalytic Reduction (SNCR) System:** The specific urea Consumption of SNCR system shall be 1.2 gm per kWh at 100% purity of urea.		**This clearly implies under-recovery of operating costs and lenders will not want to consider proposal for funding FGD when they clearly see in-built under-recovery of operating costs.** Hence CEA should consider above facts while specifying the norm for reagent consumption. As per the guarantees offered by various FGD vendors, Minimum normative reagent limestone norm may be specified as 15 g/kWh (Hon'ble CERC had proposed the same in the draft CERC (Terms and Conditions for determination of tariff) Regulations 2019). Also provision should be made for transportation loss, yard losses, losses due to moisture for limestone, similar to the norms specified for coal. Similarly, norms for sampling point, measurement method for purity of limestone may be specified similar to the norms specified for the coal. Proposed provision for Minimum purity of limestone not less than 85% may be withdrawn as the purity of the limestone will depend upon its availability in the vicinity of the plant which is beyond the control of the generator. **Provision may be made to recover the landed cost of the limestone even if the purity of the limestone is less than 85%**. There is no experience in the country regarding ECS as mentioned in the draft SM Order and hence instead of notifying norms for reagent consumption without having the actual feedback, it would be prudent if actual consumption of reagent due to ECS is monitored and allowed as pass through cost for initial period of 3-4 years and based on the historical data, norms for the same may be notified subsequently.

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12	Recovery of Deemed Fixed Charges during shutdown period for interconnection of FGD with power plant		75. We have examined the suggestions. As regards the normative availability factors in annual shutdown period, the parties to the PPAs shall coordinate and plan the interconnection of emission control system with main plant by synchronizing it with the annual overhaul. The Commission is of the view that if the period of shut down exceeds beyond annual shutdown period factored in the normative availability under PPA, either on account of delay in timely completion of activities for interconnecting emission control system or lack of coordination, the consequential cost for the same cannot not be passed on to the consumers.	Plant wise timelines for implementation of ECS will be decided by the task force to be constituted by Central Pollution Control Board (CPCB) as per the MoEF Notification dated 31.03.2021. The said timelines are likely to be decided considering various factors including the stability of grid and overhauling plan of generators, which is beyond the control of generators. Depending on the target date for commissioning of ECS as decided by the task force constituted by CPCB CEA, Commission should allow the recovery of Deemed Fixed Charges of the main project during the period of shutdown on account of implementation of ECS and other equipments. Further, we would highlight that **Deemed Fixed Charge recovery should, for projects with captive coal mine, include loss of contribution margin (total tariff without any change in law per unit – coal cost per unit) suffered by the power station vis-à-vis average PLF delivered in the previous 2 financial years.**
13	**Additional point**			1. Various SERCs are yet to issue such guidelines related to implementation of ECS for Sec 62 and Sec 63 projects, Hon'ble CERC may provide guidance to SERCs for implementation of the same. 2. **In our discussions, lenders have been insisting on a clear regulatory order specifying provisional tariff to enable them to consider financing.** It will not be possible for projects to achieve financial closure without the provisional tariff order. This will lead to a distress situation despite the good intent of the Hon'ble Commission, thereby making it difficult for projects to meet the revised ECS implementation timelines. Hence, it is our humble submission to the Hon'ble Commission to set up an expeditious process for determination of provisions tariffs, especially for large projects which cannot commence ECS implementation work without financial closure. 3. We request Hon'ble Commission to specifically seek comments on the draft SM Order from the banks and financial institutions (incl. PFC /REC).

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				4. We further request that a virtual public hearing may please be conducted with all the stakeholders before finalization of SM Order.

Thanking you,

Yours sincerely,

For **Reliance Power Limited**

Authorized Signatory