CENTRAL ELECTRICITY REGULATORY COMMISSION
(NEW DELHI)

Petition No. 4/SM/2024 (Suo-Motu)

Coram:
Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member

Date of Order: 29th November, 2024

ORDER

In the matter of:

Revision of the mechanism as set out in the order dated August 13, 2021, in Suo-Motu Petition No. 6/SM/2021 for recovery through tariff of the expenditure incurred on account of installation of emission control system by the generating companies in compliance of the revised emission standards of the Ministry of Environment, Forest & Climate Change, Government of India for the electricity supplied by the Coal based Thermal Power Generating station whose tariff is determined through competitive bidding under section 63 of the Electricity Act, 2003.

The Central Electricity Regulatory Commission (hereinafter referred to as 'the Commission') issued a mechanism vide order in 6/SM/2021 on August 13, 2021 (hereinafter referred as "principal order" or "existing expenditure recovery mechanism") for recovery of the expenditure incurred or to be incurred by the generating companies on account of installation of emission control system in compliance with the revised emission standards issued the Ministry of Environment, Forest & Climate Change, Government of India for the electricity supplied from Coal or Lignite based Thermal Generating stations (hereinafter referred as "revised emission standards")[1]. This mechanism is applicable to those coal-based thermal generating stations (i) that have valid power purchase agreements (PPA) with the procurer(s) on the basis of the tariff-based competitive bidding carried out under section 63 of the Electricity Act, 2003 (short as "the Act") as on the date of issue of the revised emission standards by MoEF and (ii)

[1] Environment (Protection) Amendment Rules, 2015 on 7.12.2015 (including amendments thereafter)

where the notification of the revised emission standards is admissible as change in law event in terms of the respective PPA(s).

2. Since the installation of the emission control system in the existing[2] generating stations requires the generating companies to incur significant capital and operational expenditures which were not factored by them at the time of tariff-based competitive bidding, the existing expenditure recovery mechanism issued by the Commission envisaged the restitution principle by providing for a separate tariff structure of emission control system, financial and operational parameters, methodology for determination of the compensation for emission control system and the manner of recovery of expenditure through tariff from the procurers. Further, this mechanism also provided certainty on the cash flow of the concerned generating companies in the form of supplementary tariff, facilitated securing funds from the financial institutions, and enabled the generating companies and procurers to appreciate the tariff implications on account of the installation of the emission control system.

3. At the time of issuing the existing expenditure recovery mechanism, only a few generating companies had installed the emission control systems. This limitation posed a challenge with regard to the availability of operational data and other challenges faced by the generating companies in funding the installation of emission control systems. The mechanism of compensation for the emission control system involves the prescribing of financial and operational norms that need to promote efficiency, be achievable, and be relatable to past performance. Given the data uncertainties and other practical considerations, the Commission issued a mechanism based on available information that could be further strengthened as and when more reliable data and the experience of the stakeholders became available. Thus, the mechanism issued by the Commission needs to be evolved and improved upon based on experience, performance data, and technological developments.

[2] Existing generating station means those coal based generating station which are in operation prior to notification of the revised emission standards.

4. The Commission, while developing the expenditure recovery mechanism for emission control systems, relied on the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (“2019 Tariff Regulations") for the tariff structure, the financial and technical parameters, useful life of the generation project, treatment of depreciation and operation & maintenance expenses.

5. The Commission has considered the issues involved in the implementation of the existing expenditure recovery mechanism. The Commission received suggestions from the generating companies while implementing the mechanism, particularly in respect of securing the debt and equity funds for the emission control system. The Commission noted that the mechanism was issued with certain limitations based on operational data and experience, which need to be reviewed based on experience and the suggestions of the stakeholders. Recently, the Commission, based on the experience of the generating companies and after consultation with the stakeholders, revised the tariff mechanism of the emission control system under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 (“2024 Tariff Regulations”)[3] applicable for generating stations under Section 62 of the Act. The Commission has received representations from the stakeholders to review the existing mechanism in respect of projects covered under Section 63 of the Act. In light of the above developments, the Commission is of the view that the existing expenditure recovery mechanism decided by the Commission in its order dated August 13, 2021, in Petition No. 6/SM/2024, applicable to tariff-based competitive bidding projects, needs to be revisited on the following aspects:

(a) Recovery of Depreciation;
(b) Operation & Maintenance expenses;
(c) Cost of debt & equity of emission control system;
(d) Interim Relief in the form of Provisional Tariff

[3] Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 was issued on 15th March 2024.

6. Accordingly, the Commission has proposed a revision in the existing compensation mechanism vide draft order in Suo-motu petition No. 4/SM/2024 in terms of amendment in the principal order and invited comments/suggestions vide public notice dated 25th July 2024 from the concerned generating companies, procurers, and other stakeholders. In response, about 24 stakeholders have submitted their comments/suggestions to the Commission, and about 12 stakeholders made oral submissions during the public hearing scheduled on 12th August 2024. The comments received from the stakeholders have also been uploaded on the website of the Commission and the same may be accessed at https://cercind.gov.in.

7. After duly considering all the comments/suggestions received from the stakeholders on the proposed draft Suo-Motu order in Petition No. 04/SM/2024, this Order is being issued repealing certain paras of the principal order.

PRINCIPLES OF COMPENSATION/RESTITUTION

8. Some of the stakeholders requested to consider the principle of restitution in letter and spirit and submitted that -

a) The compensation mechanism should follow the principle of restitution in letter and spirit, relying on the judgements of the Appellate Tribunal for Electricity in its dated 13.4.2018 in Appeal No. 210 of 2017 and judgement of the Hon'ble Supreme Court dated 25.02.2019 upholding the decision of the Appellate Tribunal.

b) The principles of restitution should not mix with the principle of compensation. FICCI submits that the Commission while applying the principle of restitution, has unilaterally been drawn to the principle of compensation. The difference between Restitution and Compensation can be drawn from the restitutionary damage and compensatory damage under the law. In the case of compensatory damage, there is a need to assess the loss (linked to a decrease in revenue), whereas restitutionary damage requires the assessment of profits also. They further relied

on the judgement of the Hon'ble Madras High Court dated 15.12.2021 in Civil Suit No. 258 of 2020 in the matter of ***E-merge Tech Global Services Pvt. Ltd. vs. M.R. Vindhyasagar & Anr.*** which in their opinion, elucidated the difference between compensatory damages and restitutionary damages and requested the Commission not to consider the principle of compensation as an alternative to the principle of restitution and apply the principle of restitution as per the power purchase agreement (PPA).

c) The Commission, to comply with the principle of restitution, has already considered the underlying principles of CERC (Terms and Condition of Tariff) Regulations, 2019, issued from time to time and requested to consider all tariff parameters under the Tariff Regulations for Section 62 PPA. In support of this argument, FICCI relied on the judgement of the Supreme Court dated 02.07.2019 in CA No. 11133 of 2011 in the matter of ***M/s. Adani Power (Mundra) Ltd. vs. Gujarat Electricity Regulatory Commissio***n wherein it was held that in case of termination of PPA, the generating company is compensated for the power supplied during the interim period by applying the principle of regulated tariff mechanism under Section 62 project.

d) While deciding the compensation mechanism, CERC, in its Suo moto Order for ECS, equated the restitution mechanism with the compensation mechanism, as has been followed in the case of renewable projects. They submitted that there is a clear demarcation between the compensation mechanism followed for renewable PPAs dealt with by the Commission in the case of the order in Petition No. 536/MP/2020 and the restitution mechanism for the coal-based thermal generation in this order. The principle followed in the case of the order in Petition No. 536/MP/2020 for renewable projects where the compensation mechanism-based annuity method was built into the PPA, and there was no clear principle of restitution in the case of renewable PPA, unlike the competitive bidding-based thermal power projects being dealt with in this order.

e) The principle of restitution in the instant order got diluted with the compensation mechanism as followed in the case of renewable projects, and the Commission is requested to consider the clear demarcation between the compensation mechanism followed for renewable PPAs under Section 63 and the restitution mechanism followed under Section 63 thermal PPAs.

9. We have considered the submission of the stakeholders. The suggestions of the stakeholders are mainly to consider the Principle of Restitution strictly as per the PPA and not to consider the principle of compensation as an alternative to the principle of restitution. Another suggestion is to adopt all the parameters of Tariff Regulations 2024 applicable for Section 62 projects to comply with the principle of restitution. We have dealt with these issues in subsequent paragraphs.

10. The Commission, while issuing an order dated August 13, 2021, in 6/SM/2021, recognized that the standard bidding documents issued by the Central Government under Section 63 of the Act do not provide any specific formulation for computation of compensation during the operating period but contain the principle of restitution to restore the affected party to the same economic position as if the change in Law event has not occurred. The Commission, while arriving at the principle of compensation, has already considered the judgement of the Appellate Tribunal for Electricity in its dated 13.4.2018 in Appeal No. 210 of 2017 and the judgement of the Hon’ble Supreme Court dated 25.02.2019 upholding the decision of the Appellate Tribunal and hence not repeated again in this order.

11. The stakeholders have placed their reliance on the judgement of the Hon'ble Madras High Court dated 15.12.2021 in Civil Suit No. 258 of 2020 in the matter of ***E-merge Tech Global Services Pvt. Ltd. vs. M.R. Vindhyasagar & Anr*** to explain the difference between the compensatory damages and restitutionary damage. As per the submission, the compensatory damage needs to assess the loss (linked to the decrease in revenue), whereas the restitutionary damage requires the assessment of profits also. We have considered the suggestion of the stakeholders carefully and are of the view that the

stakeholders have failed to appreciate the true spirit of the judgement. In the referred judgement, the Hon'ble Madras High Court has explained the circumstances under which an aggrieved party is entitled to compensatory damages and restitutionary damages, respectively. In the case of E-merge Tech Global Services P Ltd. v. Mr M.R. Vindhyasagar & Anr., the plaintiff company had filed a suit against its former employee for violation of certain non-disclosure and non-compete agreements. The relevant extract of the judgment is as under:

> *"19. This Court will now take up the issue pertaining to damages. The plaintiff has claimed damages to the tune of Rs 2 crores on the ground of unjust enrichment and has also sought restitution by disgorgement of the gains unlawfully made by the 1st defendant.*
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> *24.The learned counsel for the Plaintiff submitted that the Plaintiff is entitled to damages under the head of compensatory damages as also under the head of restitutionary damages by way of an account of profits.* ***To test this contention, it is necessary to examine the concepts of compensatory and restitutionary damages.***
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> ***25.Compensatory damages are awarded to redress the loss suffered by an aggrieved party. The restitutionary damages are more in the nature of directing the Defendants to disgorge the benefit accrued in his favour due to unjust enrichment at the expense of the Plaintiff. Compensatory damages normally present themselves with difficulties associated in computing a reliable assessment of the loss caused to the plaintiff. Sometimes, the loss is of such nature that an accurate assessment may well be out of the question.***
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> *26.The principles governing the grant of damages have been statutorily incorporated into* ***Section 73 of the Contract Act****, and has been lucidly explained by a Division Bench of the Kerala High Court in State of Kerala v. K. Bhaskaran, AIR 1985 Ker 49, wherein, it was held as under:-*
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>> *12. So the question that has to be decided by this court is whether the 10% profit claimed by the plaintiff as a loss of gain prevented can fairly and reasonably be considered as a loss "arising naturally", i.e. according to the usual course of things. We think Section 73 of the Indian Contract Act allows as damages, the loss of reasonable profits arising from a breach of contract. The rule that is applicable can be summarised as follows:— The defendant is liable only for "natural and proximate consequences of a breach or those consequences which were in the parties' contemplation at the time of*

contract." The above quoted phrases are words of art and usually represent two ways of expressing a single requirement. Proximate and natural consequences are those that flow directly or closely from the breach in the usual and normal course of events — those which a 'reasonable man' or a person of ordinary prudence would when the bargain is made foresee, as expectable results of later breach. The phrase 'in the parties' contemplation' normally means in the reasonable contemplation of the defendant. Thus understood, it has got only the same meaning as the companion phrase 'natural and proximate'. Brevity and clarity are better served by abandoning these traditional phrases of legal art and using instead the gist of their meaning. We propose the following statement of the rule. The defendant is liable only for reasonably foreseeable losses — those that a normally prudent person, standing in his place possessing his information when contracting would have had reason to foresee as probable consequences of future breach." The Division Bench went on to highlight the compensatory nature of the damages envisaged under the provision by observing as under:

In the light of the above decision, if we are not prepared to accept the estimate of the trial court in the matter of assessment of damages, we are thrown to a more difficult zone, where the assessment of damages may be more arbitrary and uncertain when the plaintiff fails to give any evidence of loss and proves only breach of contract by the defendant, certainly nominal damages are allowed. But, it by no means follows that in every such cases, only nominal damages are recoverable. A distinction has to be drawn between a case of lack of total evidence which renders it impossible to quantify damages and cases which present difficulty in assessing damages because of the nature of the damage to be proved, and the difficulty in assessing it is not a ground for refusing substantial damages. Courts are bound to try to get at that sum of money which put the wronged party in the same position as that in which he would have been, if he had not sustained the wrong which entitles him to claim damages. A judge has got to assess damages as best as he could on the materials available. He is not justified in declining to estimate the damage merely because the plaintiff could not adduce the best evidence but has to decide what the proper measure is, having regard to all the attendant circumstances and proved facts in the case. Of course in the matter of granting reasonable compensation when it is proved that one of the parties to the contract has committed breach of contract, a degree of arbitrariness is always likely to be present. To what extent the arbitrariness can travel is the crucial question. The answer is, the assessment must have the character of fairly reasonable certainty. The relevant test was then set out as under:

The plaintiff must prove his case. Plaintiffs seeking damages for breach of contract are no exception. They have to bear the burden of proving the

financial loss for which they seek recovery. Here the courts face the same dilemma that confronts them when they apply the rule in Hadley v. Baxandale. To be sure, defendant has broken a contract, he should be and he is liable. Simple justice, however forbids saddling him with liability for claims that rest on conjecture and speculation rather than real proof.

On the other hand, tender concern for him should not be carried so far as to penalise the plaintiff. Fairness forbids requiring too much of him. After all, defendant did make the contract and did commit the breach which bore the controversy. Sensitive to these conflicting equities, the courts adopt a compromise — the requirement of reasonable certainty. This standard requires plaintiff to prove with fair certainty first, that defendants breach did cause plaintiff a loss and second the amount of or extent of that loss. Of course the qualifier 'reasonable' is the key to the requirement. Plaintiff is obliged to prove with reasonable certainty, not with fatalistic sureness that defendant's breach prevented gains or otherwise resulted in loss for the plaintiff, nor is he bound to prove with mathematical exactitude the amount of gain or loss in question. Thus if the plaintiff sues to recover profits lost, he need show convincingly that in the normal course of events, he would have realised a gain which he estimates, had the defendant performed his part of the contract. In the context, he has to produce the best estimate of the amount allowed by the circumstances. Fairly persuasive evidence, the most convincing and best available under the particular circumstances of the case will suffice. It is important to notice that the Division Bench had determined the measure of damages with reference to the loss caused to the claimant rather than with reference to the gain made by the other party.

27. However, of late the Courts have developed the principle of restitution by way of an account of profits followed by a disgorgement of those profits. *The enquiry in such cases is not on the loss suffered by the plaintiff but is focused on the* ***gain made by the defendant from the alleged breach****. These forms of damages have gained currency post the decision of the House of Lords in Attorney General v Blake [2000 3 WLR 625]. George Blake, a notorious self-confessed traitor was a member of the British security and intelligence service for a number of years. In 1951 he defected to the Soviet Union. Sometime later, he leaked confidential information gained by him while in his employment with the Crown, and was sentenced to imprisonment for 42 years. True to form, he escaped from prison and went to Russia from where he penned his autobiography "No Other Choice" and entered into a publishing contract with Jonathan Cape for 150,000 pounds. The Attorney General commenced proceedings against Blake with a view to ensure that he did not enjoy the fruits of his treachery. The matter eventually reached the House of Lords. In his leading speech Lord Nicholls of Birkenhead began by setting out the general principle in the following way:*

> "***The general rule is that****, in the oft quoted words of Lord Blackburn,* ***the measure of damages is to be, as far as possible, that amount of money which will put the injured party in the same position he would have been in had he not sustained the wrong****: Livingstone v. Rawyards Coal Co. (1880) 5 App.Cas. 25, 39. Damages are measured by the plaintiff's loss, not the defendant's gain."*

12. From the above, we observe that in the judgment referred above, the plaintiff company (aggrieved party) had filed a suit against its former employee (defaulting party) for violation of certain non-disclosure and non-compete agreements. Ostensibly, there is no defaulting party in the instant petition, nor is there any case of the defaulting party gaining at the expense of the aggrieved party, thereby requiring the Commission to disgorge or appropriate the undue profit earned by the defaulting party in favour of the aggrieved party. In the instant case, there are directions of the Ministry of Environment, Forest & Climate Change, Government of India and the regulatory effort to compensate commensurate with the same. Therefore, any reliance on the judgement of the Hon'ble Madras High Court dated 15.12.2021 in Civil Suit No. 258 of 2020 in the matter of ***E-merge Tech Global Services Pvt. Ltd. vs. M.R. Vindhyasagar & Anr*** to establish the difference between Compensatory damages, and restitutionary damage is far-fetched and totally out of context. Accordingly, the Commission also dismisses the argument that while deciding the compensation mechanism for thermal projects, the restitution mechanism got diluted with the compensatory mechanism of renewable projects. Several PPAs for RE projects also have a restitution clause, and this clause assumes relevance only in the context of 'carrying cost' or "time value of money." The law as it stands today in this context, based on APTEL judgments, is that where there is a clear provision of restitution in the PPA, carrying cost will have to be allowed on the understanding that the expenditure incurred on account of change in law plus the carrying cost will alone bring the affected party to the same economic position as before the change in law. Further, APTEL, vide its judgement dated 15.09.2022, in Parampujya Solar Energy Pvt. Ltd. v. Central Electricity Regulatory Commission, Appeal No. 256 of 2019, has interpreted the words "provide relief" in PPAs to mean inter alia that carrying cost and change in law impact on O&M expenses will have to be allowed irrespective of whether the express

provision of restitution is there in the PPA. However, the operation of the said judgment has been stayed by the Hon'ble Supreme Court vide its Order dated 12.12.2022, in Civil Appeal no. 8880/2022 in the case of *"Telangana Northern Power Distribution Co. Limited & Anr. Vs. Parampujya Solar Energy Pvt. Limited & Ors."* (and in similar Orders dated 03.01.2023 and 23.01.2023).

13. Further, the Commission, in its order awarding the compensation mechanism, has followed the principle of restitution consistent with the provision of the PPA. The Commission has used the words compensation mechanism consistent with the term used in the PPA.

14. As regards the suggestion to adopt all the parameters of Tariff Regulations 2024 applicable for Section 62 projects to comply with the principle of restitution, FICCI relied on the judgement of the Supreme Court dated 02.07.2019 in CA No. 11133 of 2011 in the matter of ***M/s. Adani Power (Mundra) Ltd. vs. Gujarat Electricity Regulatory Commissio***n wherein it was held that in case of termination of PPA, the generating company is compensated for the power supplied during the interim period by applying the principle of regulated tariff mechanism under Section 62 project, which includes the return on equity. The compensation mechanism of the emission control system arises on account of the change in law event, whereas the said judgement of the Hon'ble Supreme Court is on account of termination of the PPA from the retrospective date. The principles for servicing additional capital expenditure on account change in law event are different from the servicing of capital expenditure within the original scope. The Commission has used the Tariff Regulations, 2024, as a reference to arrive at equitable compensation, and the methodology to work out the compensation is comparable but not necessarily the same for obvious reasons that the project dynamics and cost assumptions under Section 62 and Section 63 are different. This is being explained in detail in subsequent paras.

A. Depreciation (DEPe) component of Supplementary Fixed Charges

15. The Commission, in its order dated in Petition No. 6/SM/2021, had specified the treatment of depreciation of the emission control system based on the 2019 Tariff

Regulations which have since been revised by the Commission vide the 2024 Tariff Regulations. The Commission has proposed equitable treatment of depreciation as specified in the 2024 Tariff Regulations for competitively bid projects.

16. **MSEDCL** submitted that once the recovery of 70% of the depreciation (adjustment of salvage value) of the emission control system is made by the thermal generating station in the first 12 years of operation of the emission control system, the balance 30% (adjustment of salvage value) should be spread over the balance operational life of the plant. Some of the distribution licensees opposed the linking of depreciation with loan tenor on the grounds that the majority of the depreciation would be recovered within the PPA tenure, and the consumers would end up paying for the majority of depreciation towards the emission control system, but the benefit would continue to be used by the generating station even after the expiry of the PPA. **PSPCL** submitted that in most of the PPAs, the tenure is liable to be extended, and in such a scenario, it is pragmatic that the depreciation be spread over the remaining useful life of the plant or 25 years, whichever is higher.

17. Several generating companies have welcomed the proposal of providing parity in the treatment of recovery of depreciation and O&M expenses between Section 62 and Section 63 PPAs. Some of the generating companies have suggested the recovery of depreciation over the balance period of PPA instead of the balance operational life on the grounds that there is uncertainty of recovery, as there is no automatic extension of PPA, and any extension of PPA is difficult due to the ongoing transition to renewables.

18. We have considered the comments/suggestions of the stakeholders. We are not convinced by the argument that depreciation should be allowed to be recovered within the balance period of PPA on the grounds of uncertainty in the extension of PPA, as the generating companies have an alternate option to sell power in the market in the absence of the PPA and recover the balance depreciation. As regards the comment opposing higher recovery of depreciation during the first 12 years from the date of the emission

control system, the Commission would like to reiterate that the proposal is meant to provide certainty in securing funds, which is widely accepted in the industry.

19. One of the stakeholders suggested considering the additional scenario that where the operation date is subsequent to the completion of the useful life (25 years) of the generating station, the entire depreciation be recovered over a 10-year period from the operation date or as mutually agreed by the developers and the beneficiaries, whichever is higher. We have considered the suggestion. It is noted that at present, there is no such competitively bid project that has completed a useful life of 25 years, and hence, such a scenario may not exist. In the instant case, higher depreciation is proposed for the first 12 years from the date of operation of the emission control system, and the same will take care of the depreciation beyond the useful life of 25 years, irrespective of operational life. We have considered this suggestion for the recovery of depreciation beyond 12 years.

20. Accordingly, the depreciation of the emission control system installed by the competitively bid project is revised. The Commission has specified the operational life of a thermal generating station as 35 years in the 2024 Tariff Regulations. Further, the Commission, in light of the operational life of 35 years, has specified the period of recovery of 70% of depreciation of the emission control system as 12 years in the 2024 Tariff Regulations. There are very few thermal generating stations under competitively bid tariffs that have completed 15 years of life after their COD. The Commission considers it appropriate to provide for the recovery of 70% of the depreciation of the emission control system over a period of 12 years from the date of operation of the emission control system in order to enable the generating companies of competitively bid projects to meet their debt service obligations, and the balance depreciation shall be spread over the remaining operational life of the generating stations with the exception that if the date of operation of the emission control system is subsequent to the date of completion of the useful life of the generating station, 90% depreciation shall be spread over the 10 years period from the date of operation of the emission control system or over the period as mutually agreed by the generating company and beneficiaries, whichever is higher.

21. Accordingly, 70% of additional capital expenditure on account of the installation of the ECS (considering a salvage value of 10%) shall be recovered by the generating company in 12 years. The depreciation shall be computed from the date of operation of the emission control system after meeting all applicable technical and environmental standards, certified through the Management Certificate duly signed by an authorized 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. The computation of depreciation during each year of the contract period shall be worked out by the contracting parties directly based on the admitted capital cost and the depreciation rate as follows:-

a) Up to 31st March of the financial year, completing the 12th year from the date of operation of the emission control system:

$$DEPe(n) = 5.25\% \times ACEe$$

b) 13th year onwards from the date of operation of emission control system:-

$$DEPe(m) = (0.30 \times 0.90 \times ACEe) / (\text{Balance operational life} - 12); \text{ and}$$

$$(\text{Balance operational life} - 12) \geq 10$$

Where,

ACEe	is the gross capital cost (in Rupees) of the emission control system as admitted by the Commission;
DEPe(n)	is annual depreciation (in Rupees) up to the 12th year, where n=1,2….12.
DEPe(m)	is annual depreciation (in Rupees) from the 13th year onward where m=13,14,…..
Balance operational life	is balance operational life of the generating station as on the date of installation of the emission control system.

B. Cost of capital employed (debt & equity both) of emission control system

22. The Commission, after considering the difference in the tariff framework of competitively bid projects in comparison to the projects covered under the Tariff Regulations, 2024, proposed servicing of cost of capital employed of the emission control system as under: -

a) Unlike servicing the capital cost through separate streams of debt and equity followed under the Tariff Regulations, 2024, the Commission has proposed servicing of cost of capital employed without separating the debt and equity. The Tariff Regulations, 2024 are guided by the principles of the National Tariff Policy, 2016, wherein the servicing of equity and debt has been recognized separately which is not applicable for the competitively bid projects as per para 5.11 of the National Tariff Policy,2016.

b) Further, under the tariff based competitive bidding guidelines and the power purchase agreement issued by the Ministry of Power, the bidders are not required to disclose their financing arrangements at the time of bidding, which enables the generating company to provide liberty to infuse debt and equity without any restriction. This approach is widely accepted in the industry for competitive based projects, and hence, the Commission proposed the principle of the return of the cost of capital employed consistent with the Tariff Policy as well as the basic premises of competitively bid projects.

a) In the 2024 Tariff Regulations, the Commission has notified the normative capital structure (minimum debt of 70% and maximum equity of 30%) in respect of additional capitalization on account of the emission control system. The equity capital is capped to the extent of 30%, and the rate of return on equity is restricted at a Base Rate of 1-year MCLR of SBI as on 1st April of the year of operation plus 350 bps or 14% (whichever is lower), on post-tax basis. The interest of debt is serviced at the weighted average rate of interest calculated on the basis of the

actual loan portfolio or allocated loan portfolio of the project, and in the absence of an actual loan, 1-year MCLR of the State Bank of India as applicable as on April 01, of the relevant financial year, subject to a ceiling of 14%

c) The Commission, while framing the Tariff Regulations, 2024, has adopted the servicing of equity and debt separately maintaining consistency with the servicing capital cost linking with MCLR. It is accepted that the cost of capital employed approach can be adopted where it is feasible to arrive at a normative interest rate. In the case of the emission control system, which is installed in the existing operational project and has a valid power purchase agreement, the risk premium of the emission control system is more or less similar and can be benchmarked. Further, some of the lenders provide separate interest rates for emission control systems. Hence, the return of the cost of capital employed can be arrived at by linking with MCLR with an appropriate margin.

d) The servicing of capital employed during each year of the contract period was proposed to be worked out based on net fixed asset (derived by adjusting cumulative depreciation of emission control system) and normative rate of 1 year Marginal Cost of Lending Rate of State Bank of India (for one year tenor) plus 250 basis points.

23. We have received several suggestions/comments. A brief summary of the suggestions/comments is as under: -

a) **MSEDCL** submitted that the weighted average rate of capital employed worked out as per the proposed mechanism is significantly higher than the interest cost of servicing debt and cost of employing equity worked out separately as per the CERC Tariff Regulations, 2024. **PSPCL** submitted that the suggested principle for the proposed mechanism is that generating companies are not to profit from the implementation of Change in Law schemes and are at liberty to infuse capital in any ratio. **PSPCL** further submitted that as there is no change in position, the

generating companies ought not to be allowed to profit from the implementation of change in law schemes, and the consumer should not be further prejudiced by paying a higher rate of equity.

b) Some of the generating companies have suggested that the return on equity should be considered at least 15.5% towards the installation of an emission control system for Section 63 projects along with tax gross up for the restitution of the thermal power generators on the grounds of the erroneous assumption by the Commission that the cost of equity is the same as the cost of debt.

c) Some of the generating companies have suggested that there should be parity between section 62 and section 63 generating stations in terms of the structure of compensation for the installation of the same emission control equipment.

d) Some of the generating companies have also suggested the adoption of a Gross Fixed Assets approach instead of the Net Fixed Assets approach adopted by the Commission, and also provision for tax impact on return. Alternately, if the Commission decides to continue with the NFA approach, stakeholders suggested allowing a higher rate of return (such as SBI MCLR+350 bps) to ensure parity between section 62 and section 63 projects.

e) The industry organization, **FICCI,** suggested that adequate margins should be considered under the NFA approach for equitable returns for Sec 63 PPA vis-à-vis GFA approach for Sec 62 PPA, adequate treatment of the impact of tax (as an expense) should be considered while calculating the Normative cost of capital for Sec 63 PPA and accordingly, the normative cost of capital for Sec 63 PPA should be allowed at MCLR+520 basis points above the prevailing 1 Yr SBI MCLR to service the debt & equity throughout the PPA tenure.

24. We have considered the comments/suggestions of the stakeholders. We observe that there is a general consensus on the normative approach of return of capital employed. However, while accepting the normative cost of capital employed, some of the stakeholders have suggested modifying the rate at which the capital employed is proposed to be serviced on the ground that the overall return should be at par with the project under section 62 of the Act. We have dealt with all the suggestions/comments in the subsequent paragraphs.

25. Some of the generating companies have suggested that the return on equity should be considered at least 15.5% towards the installation of an emission control system for Section 63 projects along with tax gross up for restitution, as the cost of equity is not the same as the cost of debt. On the other hand, the distribution licensees have suggested that change in the law scheme should not be a source of profit. The Commission agrees that the principle of restitution under the power purchase agreement is meant to restore the affected party to the same economic position and not to extend benefit/profit out of the change in law event. In this context, therefore, what is important is the quantification of the capital cost incurred on ECS and a mechanism to service the same. As already highlighted, as per the Act and the Tariff Policy, there is a fundamental difference in the scheme of project selection and tariff determination for the projects under Section 62 and Section 63 of the Act. Under the former (Section 62 projects), a detailed scrutiny of cost is undertaken, and the debt and equity employed are identified on a normative/actual basis for the purpose of servicing them, whereas under the latter (Section 63 projects), no such detailed cost scrutiny is required and the bidders are allowed the freedom to choose their own capital structuring ratio and the Commission is not expected to get into these details. Therefore, for the purpose of servicing the expenditure incurred on account of ECS as well, it makes logical sense to continue distinguishing between projects under Section 62 and Section 63, applying the respective principles under which these projects were formulated (of detailed cost scrutiny and specified D: E ratio under section 62 vs. freedom to choose capital structuring ratio under section 63 as have gone into their project formulation.

26. Some of the generating companies have also suggested the adoption of a Gross Fixed Assets approach instead of the Net Fixed Assets approach adopted by the Commission, and also the provision for tax impact on return. Alternately, if the Commission decides to continue with the NFA approach, the stakeholders have suggested allowing a higher rate of return (such as SBI MCLR+350bps) to ensure parity between section 62 and section 63 projects. The industry organization, FICCI, has suggested normative cost of capital employed at the MCLR+520 basis points above the prevailing 1 Yr SBI MCLR to ensure parity with 2024 Tariff Regulations. We have considered the suggestions and reviewed the proposed approach based on a comparison between the ROE and ROCE approaches. The Commission has allowed the cost of equity and debt separately in the 2024 Tariff Regulations, whereas for the proposed approach for competitively bid projects, the cost of equity and debt is allowed on a consolidated basis as the cost of capital employed. Under the ROE approach for Section 62 projects, debt is serviced at the actual weighted average rate of interest (WAROI), and the cost of equity is allowed @ MCLR+350 bps, subject to a maximum of 14%. An analysis of the balance sheet of some of the Section 62 projects reveals the WAROI to be in the range of 8.65% (in some cases, even less than this). As regards the cost of equity, it works out to 12.15% (MCLR of 8.65% + 350 basis points) post-tax and 14.72% after grossing up by MAT rate of 17.47%. Thus, the weighted average cost of capital (WACC) comes to 10.47% (8.65x.7 + 14.72x.3) which might vary over the project (ECS) life. This is close to the Cost of Capital Employed proposed to be allowed for Section 63 projects (ECS). We observe that the cash flow (ROCE + Depreciation) for Section 63 projects turns out to be higher in the initial 12 years than the cash flow (ROE + IOL + Depreciation) for Section 62 projects, and vice versa for the years from the 13th year. However, the IRR under both these streams of cash flows comes very close to each other. As such, the Commission finds no merit in the argument that the treatment extended to the competitively bid projects is discriminatory compared to the treatment given to the Section 62 projects. However, the Commission on reconsideration of the fact that WAROI of some competitive projects (ECS) might be in the higher range viz-a-viz that for some

of the projects under Section 62 because of different risk factors of such projects, as well as some of the assumptions as above might vary from project to project, an additional margin over and above the MCLR may be considered, and therefore, the Commission has decided to allow the margin of 280 basis points (as against the proposed 250 basis points) over the SBI MCLR (1 year tenor). This dispensation shall remain valid for the control period ending 31st March 2029. The Commission may review the restitution principle before the end of the control period for both Section 62 projects(ECS) and Section 63 projects(ECS) based on the prevailing circumstances.

27. Accordingly, 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 normative rate of 1 year Marginal Cost of Lending Rate of State Bank of India (for one year tenor) plus 280 basis points. The generating companies shall work out the cost of capital employed towards the emission control system as follows:-

$$COCe(y) = [\, NFA(y) \times RI(y) / 100 \,]$$

Where,

$$NFA(y) = ACEe - \sum_{n=1}^{y} DEPe(n)$$ …..where y is less than or equal to 12 years

$$NFA(y) = ACEe - \sum_{n=1}^{12} (DEPe(n)) - \sum_{m=13}^{z} (DEPe(m))$$ ….where y is more than 12 years

COCe Servicing cost of Additional Capital Expenditure in Rupees per annum;

NFA(y) is the net fixed asset of the of the year "y";

RI(y) is the rate of Marginal Cost of Funds based Lending Rate (MCLR) of State Bank of India (for one year tenor) as on 1st April of the financial year plus 280 bps.

y represents the year starting from the date of operation of emission control system.

z represents the balance operational life of the plant on the date of installation of the emission control system

DEPe(n) is annual depreciation (in Rupees) up to the 12th year where n=1, 2,......12.

DEPe(m) is annual depreciation (in Rupees) from the13th year onward where m=13,14,.....

ACEe is the gross capital cost (in Rupees) of the emission control system as admitted by the Commission;

C. Operation & Maintenance Expenses

28. The Commission, vide Regulation 36(1)(9) of the 2024 Tariff Regulations, has specified the operation and maintenance expenses on account of the emission control system as a percentage of the capital cost in the absence of adequate data. The operation and maintenance expenses on account of emission control systems in coal or lignite-based thermal generating stations shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as of its date of operation, which shall be escalated annually @ 5.25% during the tariff period ending on 31st March 2029 and income generated from the sale of gypsum or other by-products shall be reduced from the operation and maintenance expenses. Accordingly, the operation & maintenance expenses of an emission control system for the competitively bid projects are proposed @ 2% of the additional capital expenditure on account of the emission control system (excluding IDC & IEDC) as on the date of commissioning to be escalated at the rate of 5.25% per annum till 31st March 2029 or revision by the Commission based on the availability of data, whichever is earlier. All the generating companies shall maintain the operation & maintenance expenses of the emission control system separately and submit to the Commission as and when so directed by the Commission.

29. Some of the generating companies have suggested that the installation of ECS requires handling of corrosive material, and an additional 0.5% O&M is required for this purpose. They further suggested that the additional 0.5% O&M over and above 2% is on

account of insurance, water charges, and expenses on handling and disposal of gypsum. In case the charges are continued at 2% of actual capex, and the insurance charges are provided on actuals. **MSEDCL** submitted that the Commission might not arrive at a constant number for allowing an inflationary increase of O&M expenses for the emission control system. The escalation in O&M expenses may be allowed to an index, which is a benchmark index that shows the inflationary increase in the country. Therefore, the escalation may be allowed in line with the increase/decrease in Wholesale Price Index (WPI) observed in each month rather than fixing it to 5.25%. **PRAYAS** submitted that, with the increased operation of ECS, there will also be the generation of gypsum and other by-products, the treatment of which will impact the finances of the generator. The sale of gypsum, for instance, could offset the expenses of handling the by-product, will impact the finances of the generator, and should be monitored. In this context, PRAYAS further submitted that the Commission should also require generators to maintain detailed reporting of the handling, disposal, and sale of gypsum and other by-products. Some of the distribution licensees suggested that higher actual O&M over and above the normative rate can be offset by the proceeds from the sale of gypsum before passing it on to beneficiaries and upward revision of escalation rate for O&M in the lack of available data should not be to the detriment of the beneficiaries and benefit of the generating stations. Future escalation should be based on actuals and not normative rates.

30. We have considered the suggestions of the stakeholders. We agree with the suggestions of the distribution licensees and the consumer groups that a lack of O&M data should not be detrimental to the beneficiaries. In the 2024 Tariff Regulations, the Commission has specified the norm of the O&M expenses of the emission control system as 2% of capital cost for the interim period till the norms are based on actual data.

31. Accordingly, the Commission is of the view that operation and maintenance expenses shall be allowed @2.0% of the additional capital expenditure (ACEe) for installation of ECS (excluding IDC, IEDC, and FERV) as admitted by the Commission and to be escalated at the rate of 5.25% per annum till 31st March 2029 or revision by the

Commission based on availability of data, whichever is earlier. Till 31.03.2029, the additional O&M expenses (O&Me) shall be worked out as follows:-

First Year: 2.0% of ACEe excluding IDC, IEDC, and FERV (to be allowed proportionately if the operation of the ECS is for part of the year)

Second Year onwards: 2.0% of ACEe escalated annually at the rate of 5.25%.

The additional O&M expenses payable shall be worked out by reducing the income generated from the sale of gypsum or other by-products from the operation and maintenance expenses.

44A. All generating companies are directed to maintain the operation & maintenance expenses of the emission control system separately and submit them to the Commission as and when directed."

D. Interim Relief in the form of Provisional Tariff

32. The Commission has proposed that after the emission control system is installed, the generating company shall approach the Commission for determination of compensation. The Commission may consider granting interim compensation during the preliminary hearing subject to the determination of final compensation. **MSEDCL** submitted that the provisional tariff may be levied from the date of commercial operation of the emission control system and the generator would start getting the compensation from the CoD itself. On the issuance of the final tariff order, the final tariff may be accordingly adjusted in the provisional tariff, resulting in the minimum impact of any carrying or holding cost. Some of the generating companies have supported and suggested providing the interim tariff on provisional capital cost, whereas the distribution licensees submitted that there is no such provision in PPA.

33. We have considered the suggestions of the stakeholders. The compensation mechanism of the emission control system is issued by the Commission within the provision of the PPA, which has been dealt with by the Commission in its order dated 6/SM/2021. The proposed provision for interim relief is to protect the consumer from heavy interest costs due to delay in granting the relief.

34. Accordingly, we are of the view that a provisional tariff for the emission control system needs to be mutually agreed upon between the generating companies and their respective procurers, considering the compensation mechanism decided in this order. In the absence of mutual agreement, the generating companies may file petitions before the Commission after the installation of emission control systems with a specific prayer for an interim supplementary tariff. The Commission may grant interim supplementary tariff as may be considered appropriate in the course of preliminary hearings of the petitions, which shall be applicable from the date of operation of the emission control system.

35. The issues, namely recovery of depreciation, cost of debt & equity of emission control system, Operation & Maintenance expenses, and Interim Relief, decided in this order shall be treated as a revision of the framework decided in the order dated August 13, 2021, in Petition No. 06/SM/2021. Accordingly, the relevant paragraph of the order dated August 13, 2021 shall be read with this order.

36. Petition No. 04/SM/2024 is disposed of in terms of the above.

Sd/-	***Sd/-***	***Sd/-***
(Harish Dudani)	**(Ramesh Babu V.)**	**(Jishnu Barua)**
Member	**Member**	**Chairperson**