Bhopal, the 21th February 2023

No. 394/MPERC/2023: In exercise of powers conferred under Section 181(2) (zd) read with Section 61 of the Electricity Act 2003 (No. 36 of 2003) thereof and all other powers enabling it in this behalf, the Madhya Pradesh Electricity Regulatory Commission hereby makes the following regulations, to amend the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020, (Revision-IV), [(RG-26 (IV) of 2020]" (hereinafter referred to as "the Principal Regulations"), namely.-

SECOND AMENDMENT TO MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF GENERATION TARIFF) REGULATIONS, 2020 {ARG-26 (IV) (ii) OF 2023}.

1. Short Title and Commencement.

1.1. These Regulations may be called the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for determination of Generation Tariff) (Second Amendment) Regulations, 2020 {ARG-26 (IV) (ii) of 2023}.

1.2. These Regulations shall come into force with effect from the date of publication in the official Gazette.

2. Amendment to Regulation 3 of the Principal Regulations.

2.1. A new clause, namely, clause (5a) shall be inserted after clause (5) of Regulation 3 of the Principal Regulations as under:

"(5a) '**Auxiliary energy consumption for emission control system** 'or' **AUXe**' in relation to a period in case of coal based thermal generating station means the quantum of energy consumed by auxiliary equipment of the emission control system of the coal based thermal generating station;"

2.2. A new clause, namely, clause (19a) shall be inserted after clause (19) of Regulation 3 of the Principal Regulations as under:

"(19a) "Emission Control System" means a set of equipment or devices required to be implemented in the coal based thermal generating station to meet the revised emission standards;"

2.3 In clause (42) of Regulation 3 of the Principal Regulations, the words "normative auxiliary energy consumption" occurring at the end shall be substituted by the words "normative auxiliary energy consumption and normative auxiliary energy consumption for emission control system as per these regulations".

2.4 Clause (43) of Regulation 3 of the Principal Regulations shall be substituted as under:

"(43) **'Plant Load Factor' or '(PLF)'** in relation to a thermal generating station or unit thereof for a given period means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \sum_{i=1}^{N} SGi \,/\, \{N \times IC \times (100-AUXn-AUXen)\}\%$$

Where,

IC = Installed Capacity of the generating station or unit in MW,

SGi = Scheduled Generation in MW for the ith time block of the period,

N = Number of time blocks during the period,

AUXn = Normative Aux. Energy Consumption as a percentage of gross energy generation, and

AUXen = Normative Auxiliary Energy Consumption for emission control system as a percentage of gross energy generation, wherever applicable.

2.5 Following is added at the end of Clause (56) of Regulation 3 of the Principal Regulations "or co-firing of biomass with coal;"

3. Amendment to Regulation 4 of the Principal Regulations.

A new clause, namely, clause 4.1(3) shall be inserted after clause 4.1(2) (xi) of Regulation 4 of the Principal Regulations as under:

(3) "Date of Operation' or 'ODe' in respect of an emission control system means 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, not below the level of Director of the generating company."

4. Amendment to Regulation 5 of the Principal Regulations.

4.1. In Regulation 5.1 of the Principal Regulations, the words "including emission control system, wherever applicable," shall be inserted in first line after the words "generating station" and before the words "may be".

4.2. In Regulation 5.5 of the Principal Regulations, the words "on submission of the completion certificate by the Board of the generating company" shall be substituted by the words "in accordance with the application filed under 2nd proviso to Regulation 6.1 of these Regulations.".

5. Amendment to Regulation 6 of the Principal Regulations.

A new proviso, namely, second proviso shall be added under Regulation 6.1 of the Principal Regulations as under:

"Provided also that the generating company shall file an application for determination of supplementary tariff for the emission control system installed in the coal based thermal generating station in accordance with these regulations not later than 60 days from the date of operation of such emission control system."

6. Amendment to Regulation 16 of the Principal Regulations.

In Regulation 16.2 of the Principal Regulations, the words "capacity charges for additional capitalization and energy charges" shall be substituted with the words "Supplementary tariff consisting of supplementary capacity charges and energy charges ".

7. Amendment to Regulation 17 of the Principal Regulations.

A new Regulation, namely Regulation 17.2 shall be added after proviso of

Regulation 17.1 of the Principal Regulations as under:

"**17.2 Supplementary Capacity Charges**: Supplementary capacity charges shall be derived on the basis of the Annual Fixed Cost for emission control system (AFCe). The Annual Fixed Cost for the emission control system shall consist of the components as listed at (a) to (e) of the Regulation 17.1 of this Regulation."

8. Amendment to Regulation 18 of the Principal Regulations.

The words "as per Regulation 43 of these regulations" shall be inserted at the end of the second proviso to Regulation 18 of the Principal Regulations.

9. Amendment to Regulation 21 of the Principal Regulations.

9.1 Word " and" deleted from end of the clause (xii) and the word "and" inserted at the end of the clause (xiii) after " ; ".

9.2 A new clause (xiv) shall be added after clause (xiii) of Regulation 21.2 of the Principal Regulations as under:

"(xiv) "Capital expenditure on account of biomass handling equipment and facilities, for co-firing."

10. Amendment to Regulation 23 of the Principal Regulations.

A new Regulation, namely, Regulation 23.6 shall be added after Regulation 23.5 of Regulation as under:

"**23.6** For the purpose of Regulation 23.4 and 23.5 of this Regulation, IDC on actual loan and normative loan infused shall be considered.

11. Amendment to Regulation 25 of the Principal Regulations.

A new proviso shall be added after existing proviso of the Regulation 25.1, of the Principal Regulations as under:

"provided also that where the emission control system is installed, the norms of initial spares specified in this Regulation for coal based thermal generating station shall apply."

12. Amendment to Regulation 28 of the Principal Regulations.

A new clause (g) shall be added after clause (f) of Regulation 28.1 of the Principal Regulations as under:

"(g) "Expenditure on account of biomass handling equipment and facilities, for co-firing."

13. Amendment to Regulation 31 of the Principal Regulations.

A new Regulation 31.5 shall be added after Regulation 31.4 of the Principal Regulations as under:

"31.5 Un-discharged liability, if any, on account of emission control system shall be allowed as additional capitalization during the year it is discharged, subject to prudence check."

14. Amendment to Regulation 33 of the Principal Regulations.

A new Regulation 33.6 shall be added after Regulation 33.5 of the Principal Regulations as under:

"33.6 Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in Regulation 33.1 of this Regulation."

15. Amendment to Regulation 34 of the Principal Regulations.

15.1. A new proviso, after Regulation 34.2 shall be added as under:

"Provided also that return on equity in respect of additional capitalization after cut-off date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or in the absence of actual loan portfolio of the generating station, the weighted average rate of interest of the generating company, as a whole shall be considered, subject to ceiling of 14%".

15.2. A new Regulation 34.3, after aforesaid proviso of Regulation 34.2 shall be added as under:

34.3 "The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%;"

16. Amendment to Regulation 36 of the Principal Regulations.

A new Regulation 36.4A shall be inserted after Regulation 36.4 of Regulation 36 of the Principal Regulations as under:

"36.4A The rate of interest on loan for emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered."

17. Amendment to Regulation 37 of the Principal Regulations.

Two new Regulations namely, Regulation 37.10 and 37.11 shall be added after Regulation 37.9 of the Principal Regulations asunder:

"37.10 Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Regulation 37.1 to 37.9 of this Regulation.

37.11 Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of

a. twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or

b. balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or

c. Fifteen years in case the generating station or unit thereof has completed its useful life.".

18. Amendment to Regulation 38 of the Principal Regulations.

A new Regulation namely, clause AA shall be inserted after clause A Of Regulation 38.1 of the Principal Regulations as under:

"AA **For emission control system of coal based thermal generating stations:**

(i) Cost of limestone or reagent towards stock for 30 days corresponding to the normative annual plant availability factor;

(ii) Advance payment for 30 days towards cost of reagent for generation corresponding to the normative annual plant availability factor;

(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;

(iv) Operation and maintenance expenses in respect of emission control system for one month; and

(v) Maintenance spares @ 20% of operation and maintenance expenses in respect of emission control system."

19. Amendment to Regulation 40 of the Principal Regulations.

At the end of the first sentence of second proviso under Regulation 40.2 of the Principal Regulations, the words "and considering the norms of specific water consumption notified by the Ministry of Environment, Forest and Climate Change" shall be added.

20. Amendment to Regulation 41 of the Principal Regulations.

After Regulation 41.3, a new Regulation 41.4 in Regulation 41 of the Principal Regulations along with its proviso shall be added as under as under:

"41.4 The operation and maintenance expenses on account of emission control system in coal based thermal generating station shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @3.5% during the tariff period ending on 31st March 2024:

Provided that income generated from sale of gypsum or other by-products shall be reduced from the operation and maintenance expenses."

21. Amendment to Regulation 42 of the Principal Regulations

21.1. The title of Regulation 42 of the Principal Regulations shall be substituted as "Computation of Capacity Charges, Supplementary Capacity Charges, Energy Charges and Supplementary Energy Charges"

21.2. In the proviso under the formula under Regulation 42.2 of Regulation 42 of the Principal Regulations, the words "or installation of emission control system, as the case may be" shall be inserted after the words "Renovation and Modernisation".

21.3. Regulation 42.5 along with the proviso of the said Regulation shall be substituted as under:-

"42.5 The Plant Availability Factor for a Month ('PAFM') shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \sum_{i=1}^{N} \frac{DCi}{[NxICx(100-AUXn-AUXen)]\ \%}$$

Where,

AUX_n= Normative auxiliary energy consumption in percentage of gross energy generation.

$AUXe_n$= Normative auxiliary energy consumption for emission control system.

DCi = Average declared capacity (in ex-bus MW), for the i^{th} day of the period i.e. the month or the year as the case may be, as certified by the concerned load dispatch centre after the day is over.

IC = Installed Capacity (in MW) of the generating station

N = Number of days during the period

Note: DCi and IC shall exclude the capacity of generating units not declared under commercial operation. In case of a change in IC during the concerned period, its average value shall be taken."

22. New Regulation 42A to be added in the Principal Regulations.

A new regulation, namely, Regulation 42A shall be added after Regulation 42 of the Principal Regulations as under:

"42A. Computation and Payment of Supplementary Capacity Charge for Coal based Thermal Generating Stations:

(1) The fixed cost of emission control system shall be computed on annual basis based on the norms specified under these regulations and recovered on monthly basis under supplementary capacity charge. The total supplementary capacity charge payable for a generating station shall be shared by its beneficiaries as per their respective percentage share or allocation in the capacity of the generating station. The supplementary capacity charge shall be recovered under two segments of the year, i.e. High Demand Season (period of three months) and Low Demand Season (period of remaining nine months), and within each season in two parts viz., Supplementary Capacity Charge for Peak Hours of the month and Supplementary Capacity Charge for Off-Peak Hours of the month as follows:

Supplementary Capacity Charge for the Year (SCCy) =
Sum of Supplementary Capacity Charge for three months of High Demand Season + Sum of Supplementary Capacity Charge for nine months of Low Demand Season.

(2) The Supplementary Capacity Charge payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae:

Supplementary Capacity Charge for the Month (SCCm) =
Supplementary Capacity Charge for Peak Hours of the Month (SCCp) + Supplementary Capacity Charge for Off-Peak Hours of the Month (SCCop)
Where,

High Demand Season:

$SCCp_1 = (0.20 \times AFCe) \times (1/12) \times (PAFMp1 / NAPAF)$ subject to ceiling of $(0.20 \times AFCe) \times (1/12)$

$SCCp_2 = \{(0.20 \times AFCe) \times (1/6) \times (PAFMp_2 / NAPAF)$ subject to ceiling of $(0.20 \times AFCe) \times (1/6)\} - SCCp_1$

$SCCp_3 = \{(0.20 \times AFCe) \times (1/4) \times (PAFMp3 / NAPAF)$ subject to ceiling of $(0.20 \times AFCe) \times (1/4)\} - (SCCp1 + SCCp2)]\}$

$SCCop_1 = \{(0.80 \times AFCe) \times (1/12) \times (PAFMop1 / NAPAF)$ subject to ceiling of $(0.80 \times AFCe) \times (1/12)\}$

$SCCop_2$ = {(0.80 xAFCe)x (1 / 6) x ($PAFMop2$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 6)} − $SCCop1$

$SCCop_3$ = {(0.80 xAFCe)x (1 / 4) x ($PAFMop3$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 4)} − ($SCCop1$ + $SCCop2$)

Low Demand Season:

SCCp1 = {(0.20 xAFCe)x (1 / 12) x ($PAFMp1$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (1 / 12)}

SCCp2= {(0.20 xAFCe)x (1 / 6) x ($PAFMp2$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (1 / 6)} − $CCp1$

SCCp3= {(0.20 xAFCe)x (1 / 4) x ($PAFMp3$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (1 / 4)} − ($SCCp1$ + $SCCp2$)

SCCp4= {(0.20 xAFCe)x (1 / 3) x ($PAFMp4$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (1 / 3)} − ($SCCp1$ + $SCCp2$ + $SCCp3$)

SCCp5= {(0.20 xAFCe)x (5 / 12) x ($PAFMp5$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (5 / 12)} − ($SCCp1$ + $SCCp2$ + $SCCp3$ + $SCCp4$)

SCCp6 = {(0.20 xAFCe)x (1 / 2) x ($PAFMp6$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (1 / 2)} − ($SCCp1$ + $SCCp2$ + $SCCp3$ + $SCCp4$ + $SCCp5$)

SCCp7 = {(0.20 xAFCe)x (7 /12) x ($PAFMp7$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (7 /12)} − ($SCCp1$ + $SCCp2$ + $SCCp3$ + $SCCp4$ + $SCCp5$ + $SCCp6$)

SCCp8= {(0.20 xAFCe)x (2 / 3) x ($PAFMp8$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (2 / 3)} − ($SCCp1$ + $SCCp2$ + $SCCp3$ + $SCCp4$ + $SCCp5$ + $SCCp6$ + $SCCp7$)

SCCp9 = {(0.20 xAFCe)x (3 / 4) x ($PAFMp9$ / $NAPAF$) subject to ceiling of (0.20 xAFCe)x (3 / 4)} − ($SCCp1$ + $SCCp2$ + $SCCp3$ + $SCCp4$ + $SCCp5$ + $SCCp6$ + $SCCp7$ + $SCCp8$)

SCCop1 = {(0.80 xAFCe)x (1 / 12) x ($PAFMop1$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 12)}

SCCop2 = {(0.80 xAFCe)x (1 / 6) x ($PAFMop2$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 6)} − $SCCop1$

SCCop3 = {(0.80 xAFCe)x (1 / 4) x ($PAFMop3$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 4)} − ($SCCop1 + SCCop2$)

SCCop4 = {(0.80 xAFCe)x (1 / 3) x ($PAFMop4$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 3)} − ($SCCop1 + SCCop2 + SCCop3$)

SCCop5= {(0.80 xAFCe)x (5 / 12) x ($PAFMop5$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (5 / 12)} − ($SCCop1 + SCCop2 + SCCop3 + SCCop4$)

SCCop6 = {(0.80 xAFCe)x (1 / 2) x ($PAFMop6$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (1 / 2)} − ($SCCop1 + SCCop2 + SCCop3 + SCCop4 + SCCop5$)

SCCop7= {(0.80 xAFCe)x (7 / 12) x ($PAFMop7$ / $NAPAF$) subject to ceiling of (0.80 xAFCE)x (7 / 12)} − ($SCCop1 + SCCop2 + SCCop3 + SCCop4 + SCCop5 + SCCop6$)

SCCop8 = {(0.80 xAFCe)x (2 / 3) x ($PAFMop8$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (2 / 3)} − ($SCCop1 + SCCop2 + SCCop3 + SCCop4 + SCCop5 + SCCop6 + SCCop7$)

SCCop9 = {(0.80 xAFCe)x (3 / 4) x ($PAFMop9$ / $NAPAF$) subject to ceiling of (0.80 xAFCe)x (3 / 4)} − ($SCCop1 + SCCop2 + SCCop3 + SCCop4 + SCCop5 + SCCop6 + SCCop7 + SCCop8$)

Provided that in case of generating station or unit thereof under shutdown due to Renovation and Modernisation, the generating company shall be allowed to recover O&M expenses and interest on loan in respect of emission control system only.

Where,

SCCm= Supplementary Capacity Charge for the Month;

SCCp= Supplementary Capacity Charge for the Peak Hours of the Month;

SCCop= Supplementary Capacity Charge for the Off-Peak Hours of the Month;

SCCpn= Supplementary Capacity Charge for the Peak Hours of n^{th} Month in a specific Season;

SCCopn= Supplementary Capacity Charge for the Off-Peak Hours of n^{th} Month in a specific Season;

AFCe= Annual Fixed Cost of the emission control system;

PAFMpn= Plant Availability Factor achieved during Peak Hours upto the end of n^{th} Month in a Season;

PAFMopn= Plant Availability Factor achieved during Off-Peak Hours upto the end of n^{th} Month in a Season;

NAPAF= Normative Annual Plant Availability Factor.

(3) Any under-recovery or over-recovery of Supplementary Capacity Charge as a result of under-achievement or over-achievement, vis-à-vis the NAPAF in Peak Hours and Off-Peak Hours of a Season (High Demand Season or Low Demand Season, as the case may be) shall not be adjusted with under-achievement or over-achievement, vis-à-vis the NAPAF in Peak Hours and Off- Peak Hours of the other Season:

Provided that within a Season, the shortfall in recovery of Supplementary Capacity Charge for cumulative Off-Peak Hours derived based on NAPAF, shall be allowed to be off-set by over-achievement of PAF, if any, and consequent notional over-recovery of Supplementary Capacity Charge for cumulative Peak Hours in that Season:

Provided further that within a Season, the shortfall in recovery of Supplementary Capacity Charge for cumulative Peak Hours derived based on NAPAF, shall not be allowed to be off-set by over-achievement of PAF, if any, and consequent notional over-recovery of Supplementary Capacity Charge for cumulative Off-Peak Hours in that Season.

Normative Plant Availability Factor for Peak Hours and Off-Peak Hours in a month for the purpose of Supplementary Capacity Charge and Peak Hours and Off-Peak Hours shall be considered in the manner specified in Clause (3) of Regulation 42A of these regulations. The PAFM shall be worked out in accordance with Regulation 42.5 of these regulations."

23. Amendment to Regulation 43 of the Principal Regulations.

23.1. At the end of the heading of Regulation 43 of the Principal Regulations, the words

"**and Supplementary Energy Charge for Coal based Thermal Generating Stations**:" shall be added.

23.2. A new clause, namely, clause (a) shall be added after Regulation 43.1 of the Principal Regulations as under:

"43.1(a) The supplementary energy charge on account of emission control system shall cover the differential energy charges due to auxiliary energy consumption and cost of reagent consumption, and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the supplementary energy charge rate of the month. Total supplementary energy charge payable to the generating company for a month shall be:

Supplementary Energy Charges = (Supplementary energy charge rate in Rs./kWh)x{Scheduled energy(ex-bus) for the month in kWh}"

23.3. In Regulation 43.2 of the Principal Regulations, the words "and Supplementary Energy charge rate" shall be added after the words "Energy charge rate (ECR)".

23.4. A new sub-clause, namely, Sub-clause (a) shall be inserted after Regulation 43.2 of the Principal Regulations as under:

"**(a) Supplementary ECR for coal based thermal generating stations:**

Supplementary ECR= (ΔECR)+[(SRC x LPR / 10)/(100-(AUXn+AUXen))]

Where,

(ΔECR)=Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to (AUXn + AUXen) and ECR with normative auxiliary energy consumption as specified in these regulations and revised;

SRC = Specific reagent consumption on account of revised emission standards (in g/kWh);

LPR = Weighted average landed price of reagent for emission control system (in Rs./kg)".

24. Amendment to Regulation 44 of the principal Regulations

In Regulation 44.1 of the principal Regulations, the words "and Supplementary Energy Charges" shall be added after the word "Energy Charges".

25. Amendment to Regulation 46 of the Principal Regulations

In Regulation 46.2 of the Principal Regulations, the words "notified by Central Commission separately" shall be substituted by the words "as specified in Regulation 49 of these Regulations"

26. Amendment to the Regulation 49 of the Principal Regulations.

26.1. In Regulation 49.1 of the Principal Regulations, the words "supplementary capacity charge, supplementary energy charge," shall be inserted after the words "energy charge,".

26.2. A new sub-clause, namely, Sub-clause (F) shall be inserted after Sub-clause (E) of Regulation 49.3 of the Principal Regulations as under:

"(F) Norms of Auxiliary energy consumption for emission control system (AUXen) of thermal generating stations:

Name of Technology	AUXen (as % of gross generation)
(1) For reduction of emission of sulphur dioxide:	
a) Wet Limestone based FGD system (without Gas to Gas heater)	1.0%
b) Lime Spray Dryer or Semidry FGD System	1.0%
c) Dry Sorbent Injection System (using Sodium bicarbonate)	NIL
d) For CFBC Power plant (furnace injection)	NIL
e) Sea water based FGD system (without Gas to Gas heater)	0.7%
(2) For reduction of emission of oxide of nitrogen :	
a) Selective Non-Catalytic Reduction system	NIL
b) Selective Catalytic Reduction system	0.2%

Provided that where the technology is installed with "Gas to Gas" heater,

AUXen specified above shall be increased by 0.3% of gross generation."

26.3. A new clause, namely clause (G) shall be added after clause (F) of Regulation 49 of the Principal Regulations as under:

"(G) **Norms for consumption of reagent:** (1) The normative consumption of specific reagent for various technologies for reduction of emission of sulphur dioxide shall be as under:

(a) **For Wet Limestone based Flue Gas De-sulphurisation (FGD) system:** The specific limestone consumption (g/kWh) shall be worked out by following formula:

$$[K \times SHR \times S/CVPF] \times [85/LP]$$

Where,

S = Sulphur content in percentage,

LP = Limestone Purity in percentage,

SHR= Gross station heat rate, in kCal per kWh;

CVPF= Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based thermal generating stations less 85kCal/kg on account of variation during storage at generating station:

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/Nm^3 or (26.8 x Design SO2 Removal Efficiency/73%) for units to comply with SO2 emission norm of 600 mg/Nm^3:

Provided further that the limestone purity shall not be less than 85%.

(b) **For Lime Spray Dryer or Semi-dry Flue Gas De-sulphurisation (FGD) system:** The specific lime consumption shall be worked out based on minimum purity of lime (LP) as at 90% or more by applying formula [6x90/LP] g/kWh;

(c) **For Dry Sorbent Injection System (using sodium bicarbonate):** The specific consumption of sodium bicarbonate shall be 12g per kWh at 100% purity.

(d) **For CFBC Technology (furnace injection) based generating station:** The specific limestone consumption for CFBC based generating station (furnace injection) shall be computed with the following formula:

$$[62.9 \times S \times SHR/CVPF] \times [85/LP]$$

Where

S = Sulphur content in percentage,

LP = Limestone Purity in percentage,

SHR = Gross station heat rate, in kCal per kWh,

CVPF= Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based thermal generating stations less 85kCal/kg on account of variation during storage at generating station.

(e) **For Sea Water based Flue Gas Desulphurisation (FGD) system:** The reagent used in sea water based Flue Gas Desulphurisation (FGD) system shall be NIL.

(2) The normative consumption of specific reagent for various technologies for reduction of emission of oxide of nitrogen shall be as below:

(a) **For Selective Non-Catalytic Reduction(SNCR) System:** The specific urea consumption of SNCR system shall be 1.2 g / kWh at100% purity of urea.

(b) **For Selective Catalytic Reduction (SCR) System:** The specific ammonia consumption of SCR system shall be 0.6 g / kWh at 100% purity of ammonia."

27. Amendment to Regulation 65 of the principal Regulations.

A new Regulation 65.3 shall be inserted after proviso of Regulation 65.2 of the principal Regulations as under :

"**65.3** Expenses towards Fly Ash utilization & transportation shall be payable in accordance to the directives issued by Government of India, Ministry of Environment, Forest and Climate Change vide Notification No. S.O. 5481 (E) dated 31.12.2021 and subsequent amendment issued from time to time:

Provided that the generating company shall maintain separate accounts/records for expenses towards Fly Ash utilization & transportation

reconciled with the Annual Audited Accounts and duly certified by the statutory Auditor. The generating company shall submit complete details of aforesaid expenses to the procurer in FORM TPS 19 (A) along with supporting documents.

28. Amendment to PART I of Annexure I of the Principal Regulations.

28.1. A new form namely, FORM 15 A shall be inserted after FORM 15 of Annexure-I of Part I of the Principal Regulations.

28.2. A new form namely, FORM 19 A shall be inserted after FORM 19 of Annexure-I of Part I of the Principal Regulations.

By order of the Commision,
UMAKANTA PANDA, Secy.

Note: (i) The Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 {RG-26 (IV) OF 2020} were published in Gazette of Madhya Pradesh on 28th February' 2020.

(ii) First Amendment to Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 {ARG-26 (IV)/(i) OF 2023}. was published in Gazette of Madhya Pradesh on 27th January' 2023.

Annexure-I

PART 1
FORM-15A

Details of Reagent for
Computation of Supplementary Energy Charge Rate

Name of the Petitioner _____

Name of the Generating Station _____

S. No.	Month	Unit	For preceding 3rd Month (from ODe)	For preceding 2nd Month (from ODe)	For preceding 1st Month (from ODe)
1	Opening Stock of Reagent	MT			
2	Quantity of Reagent supplied by Limestone supply Company	MT			
3	Adjustment (+/-) in quantity Supplied by limestone or Reagent supply Company	MT			
4	Net quantity of Reagent Received (1±2)	MT			
5	Amount charged for Reagent supply Company	(Rs.)			
6	Adjustment (+/-) in amount charged made for Reagent supply by the Company	(Rs.)			
7	Total amount Charged (4±5)	(Rs.)			
8	Transportation charges by rail/ship/road transport	(Rs.)			
9	Adjustment (+/-) in amount charged made by Railways /Transport Company	(Rs.)			
10	Demurrage Charges, if any	(Rs.)			
11	Total Transportation Charges (8±-9-10)	(Rs.)			
12	Total amount Charged for Reagent supplied including Transportation (6+10)	(Rs.)			
13	Weighted Average Cost of Reagent during the month	Rs/MT			
14	Purity of Reagent received during the month	(%)			

(Petitioner)

Annexure-I

PART 1

FORM-19A

Details of Fly Ash transportation and utilization expenses

Sr. No.	Power Station	Name of the party to whom Ash supplied or transported	Distance in km	Quantum of supply of ash from plant (MT)	Income from ash sales (Rs.)	Total transportation cost incurred (Rs.)

(Petitioner)