

**BEFORE THE HON'BLE ANDHRA PRADESH ELECTRICITY
REGULATORY COMMISSION,**

AT 5TH FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD-500004

O.P. No. 12 /2024

IN THE MATTER OF:

Hinduja National Power Corporation Limited (HNPCL)

..Petitioner

And

Southern Power Distribution Power Company of Andhra Pradesh (APSPDCL)

And 2 others

..Respondents

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Petitioner

Date: 13.03.2024

Place: Hyderabad

Application for

Determination of Multi Year Tariff for the period From 1st April 2024 to 31st

March, 2029

for

HNPCL 1040MW (2 x 520 MW) Thermal Power Project Vishakhapatnam

FOR DETERMINATION OF TARIFF FOR SUPPLY OF ELECTRICITY BY A GENERATING COMPANY TO AND PURCHASE OF ELECTRICITY BY DISTRIBUTION LICENSEES FOR THE FY 2025, FY 2026, FY 2027, FY 2028 AND FY 2029 AND MULTI YEAR ARR & TARIFF FRAMEWORK (MYF) FOR THE FIFTH CONTROL PERIOD (FY 2024-25 TO FY 2028-29) FOR ITS GENERATION AND SALE OF ELECTRICITY BUSINESS UNDER CLAUSE 10 OF REGULATION 1 OF 2008 OF ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF TARIFF FOR SUPPLY OF ELECTRICITY BY A GENERATING COMPANY TO A DISTRIBUTION LICENSEE AND PURCHASE OF ELECTRICITY BY DISTRIBUTION LICENSEES) REGULATIONS, 2008 READ WITH SECTION 61, 62 & 64 OF THE ELECTRICITY ACT, 2003 BY HNPCL 1040 MW (2 x 520 MW) THERMAL POWER PROJECT IN VISHAKHAPATNAM

DATE: 13-03-2024

PLACE: HYDERABAD



**BEFORE THE HON'BLE ANDHRA PRADESH ELECTRICITY
REGULATORY COMMISSION,**

AT 5TH FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD-500004

O.P. No. 12 /2024

IN THE MATTER OF:

HNPCL's application for determination of additional Capital Cost of the coal fired power station of 1040 MW (2 x 520 MW) capacity in the district of Vishakhapatnam for determination of Tariff for supply of Electricity by a Generating Company to and purchase of Electricity by Distribution Licensees for the FY 2025, FY 2026, FY 2027, FY 2028 and FY 2029 and Multi Year ARR & Tariff Framework (MYF) for the Fifth Control Period (FY 2024-25 to FY 2028-29) for its Generation and Sale of Electricity business under Clause 10 of Regulation 1 of 2008 of Andhra Pradesh Electricity Regulatory Commission (Terms and conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees) Regulations, 2008 read with sections 61, 62 & 64 of the Electricity Act, 2003.

AND

IN THE MATTER OF:

Hinduja National Power Corporation Limited (HNPCL)

Registered office: C/o. Gulf Oil Corporation Limited,

Post bag no.1, Kukatpally,



[Handwritten signature]

Sanathnagar IE, Hyderabad-500018.

Corporate office:
Complex

Tower C-Plot C-21, G Block, Bandra Kurla

Bandra (East) Mumbai 400051

(for official correspondences)

.Email id: gsreenivas.hnp@hindujagroup.com

.....PETITIONER

Versus

1. Southern Power Distribution Power Company of Andhra Pradesh (APSPDCL), Srinivasapuram, Thiruchanoor road, Tirupathi-517503
2. Eastern Power Distribution Company of Andhra Pradesh (APEPDCL), P&T Colony, Seethammadhara, Visakhapatnam Tel: 0891-2582392 Email: cmd@apeasternpower.com
3. Andhra Pradesh Central Power Distribution Corporation Ltd. (APCPDCL), Beside Polytechnic College, 111 Road, Vijayawada - 520 008, Krishna Dist Andhra Pradesh

.....RESPONDENTS

AFFIDAVIT VERIFYING THE PETITION

I, Garla Sreenivas, Son of Sri G. Narayana Chetty, aged 60 years, Occupation Deputy General Manager, residing at Flat no 102, Sai Residency, H No 2-2-647-103, Central Excise Colony, Baghamburpet, Hyderabad- 500013, do solemnly affirm and say as follows:



1. I am the authorized representative of the Hinduja National Power Corporation Limited (HNPCL), the Petitioner in the above matter and I am duly authorized by the said Petitioner to make this affidavit on its behalf.
2. I have read and understood the contents of the accompanying filings for determination of Revised Multi Year Tariff for supply of electricity by Hinduja National Power Corporation Limited to and purchase of Electricity by aforesaid Distribution Licensees. The statements made in paragraphs of the accompanying affidavit now shown to me are true to my knowledge and are derived from official records made available to me and / are based on information and advice received which I believe to be true and correct.



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DEPONENT

VERIFICATION

I , the above name deponent solemnly affirm at Hyderabad on this 13th day of March,2024 , that the contents of the above affidavit are true to my knowledge and no part of it is false and nothing material has been concealed there from.



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DEPONENT



**BEFORE THE HON'BLE ANDHRA PRADESH ELECTRICITY
REGULATORY COMMISSION,**

AT 5TH FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD-500004

O.P. No. 12 of 2024

IN THE MATTER OF:

HNPCL's application for determination of additional Capital Cost of the coal fired power station of 1040 MW (2 x 520 MW) capacity in the district of Vishakhapatnam for determination of Revised Tariff for supply of Electricity by a Generating Company to and purchase of Electricity by Distribution Licensees for the FY 2025, FY 2026, FY 2027, FY 2028 and FY 2029 and Multi Year ARR & Tariff Framework (MYF) for the Fifth Control Period (FY 2024-25 to FY 2028-29) for its Generation and Sale of Electricity business under Clause 10 of Regulation 1 of 2008 of Andhra Pradesh Electricity Regulatory Commission (Terms and Conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees) Regulations, 2008 read with sections 61, 62 & 64 of the Electricity Act, 2003.

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IN THE MATTER OF:

Hinduja National Power Corporation Limited (HNPCL)

Registered office:



C/o. Gulf Oil Corporation Limited,

Post bag no.1, Kukatpally,



Sanathnagar IE, Hyderabad-500018.

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Tower C-Plot C-21, G Block, Bandra Kurla

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Email id: gsgreenivas.hnp@hindujagroup.com

.....PETITIONER

Versus

1. Southern Power Distribution Power Company of Andhra Pradesh (APSPDCL), Srinivasapuram, Thiruchanoor road, Tirupathi-517 503, Email: cmd@southernpowerap.co.in
2. Eastern Power Distribution Company of Andhra Pradesh (APEPDCL), P&T Colony, Seethammadhara, Visakhapatnam-530 013, Tel: 0891-2582392, Email: cmd@apeasternpower.com
3. Andhra Pradesh Central Power Distribution Corporation Ltd. (APCPDCL), Beside Polytechnic College, ITI Road, Vijayawada - 520 008, Krishna Dist Andhra Pradesh, Email id: cmdapcpdcl@gmail.com

.....RESPONDENTS (DISCOMS)



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The Applicant respectfully submits as under:

I. **Name and Address of the Applicant:** Hinduja National Power Corporation Limited (HNPC), C/o. Gulf Oil Corporation Limited, Post bag no.1, Kukatpally, Sanathnagar IE, Hyderabad-500018.

II. **Primary business of the Applicant:** Power Generation

III. **Details of Distribution Licensees purchasing power:**

- a. Southern Power Distribution Power Company of Andhra Pradesh (APSPDCL), Srinivasapuram, Thiruchanoor road, Tirupathi-517503
- b. Eastern Power Distribution Company of Andhra Pradesh (APEPDCL), P&T Colony, Seethammadhara, Visakhapatnam-530013
- c. Andhra Pradesh Central Power Distribution Corporation Ltd. (APCPDCL) , Beside Polytechnic College, ITI Road, Vijayawada - 520 008, Krishna District

IV. **Details of Generating Company/ Trader etc. Selling power:**

(Registered office)

Hinduja National Power Corporation Limited,
C/o. Gulf Oil Corporation Limited, Post Bag No.1,
Kukatpally, Sanathnagar I.E. Hyderabad-500018.

(for official correspondences)

Tower C-Plot C-21, G Block, Bandra Kurla Complex
Bandra (East) Mumbai 400051



V. Name and location of the Generating station for which Tariff is to be determined including the following details.

- a. Name / location of the generating station: Hinduja National Power Corporation Limited (HNPCL) 1040 MW (2 x 520 MW) Thermal Power Project, Visakhapatnam
- b. Total existing unit-wise installed capacity and proposed unit-wise capacity in MW: 1040 MW (2 x 520 MW)
- c. Name of generation plant: HNPCL 1040 MW (2 x 520) Thermal Power Project Visakhapatnam
- d. Type of primary and secondary fuel: Coal, LDO & LSHS/HFO
- e. Estimated Capital Cost: Rs.5940.78 Crore (as per the application herein)
- f. Details of project loans for the Units: Domestic Loan by a consortium of 10 public sectors banks and LIC led by State Bank of India.

VI. Details of fee paid to the Commission

Fees Amount Rs.	2 Crores
Issuing Bank	STATE BANK OF INDIA
Receipt No.	JOURNAL NO. 2833590HI (ONLINE) PROOF OF PAYMENT FILED ON Pg.No. 326
Date of Payment	13.03.2024

The above fee has already been paid along with the Company's Application for 'Determination of Capital Cost and Multi Year Tariff of the coal fired power station of 1040 MW (2 x 520 MW) capacity in the district of Vishakhapatnam' Vide its application dated 13.03.2024

VII. Any other relevant information that is reasonable /necessary to be informed to the Commission:



1. The Hon'ble Commission has approved the Capital cost and Multi- year Tariff for the period from 1st August 2022 till 31.03.2024 for the coal fired power station of 1040 MW (2 x 520 MW) capacity in the district of Vishakhapatnam vide its Common order dated 01.08.2022. It is respectfully submitted that HNPCL has filed an Appeal being No. 743 of 2023 before the Hon'ble Appellate Tribunal against the above order dated 01.08.2022 passed by this Hon'ble Commission wherein, the issues of capital cost, tariff parameters, IDC, IEDC etc. have been challenged. However, for the purposes of the present petition, HNPCL has adopted the capital cost as approved by this Hon'ble Commission in the order dated 01.08.2022 and has applied the tariff methodology in terms of the said order.
2. HNCPL hereby now submits the application for approval of additional Capital Cost and Multi Year ARR & Tariff Framework for the Fifth Control Period (FY 2024-25 to FY 2028-29) for sale of Electricity by Generating Company to Distribution Licensees from FY 2024-25 to FY 2028-29.
3. This filing is in accordance with the provisions of the A.P. Reforms Act 1998, the Electricity Act, 2003 and the Guidelines issued by the Hon'ble Commission till date.
4. While filing the current application, HNPCL has endeavored to comply with the various applicable legal and regulatory directions and stipulations including the directions of the Hon'ble Commission in the Business Rules of the Commission, the Guidelines and the recent Regulations on "Terms and Conditions for Determination of the Tariff for supply of Electricity by the Generating Company to a distribution licensee and purchase of electricity by the Distribution Licensees (Regulation No. 1 of 2008 dated September 1, 2008).



5. Based on the information available, the applicant has made bona fide efforts to comply with the directions of the Hon'ble Commission and discharge its obligations to the best of its abilities. However, should any further material become available in the near future, the Applicant reserves its right to file such additional information(s) and consequently amend/revise the current addendum application.
6. The Board of Directors of HNPCL has approved Sri. Garla Sreenivas, Deputy General Manager as authorized signatory to execute and file the said application on behalf of HNPCL vide the Board Resolution dated 21.12.2021. A copy of the Board Resolution dated 21.12.2021 is attached hereto and marked as **Annexure- A**. Accordingly, the current application is signed and verified by, and backed by the affidavit of Sri. Garla Sreenivas, Deputy General Manager.
7. In the aforesaid facts and circumstances, the applicant requests that this Hon'ble Commission:
 - a. Grant suitable opportunity to HNPCL within reasonable time frame to file additional material information, if any;
 - b. Grant the waivers as prayed for with respect to such filing requirements, as HNPCL is unable to comply with at the stage, as more specifically detailed and for reasons set out in the present filings;
 - c. Treat the filings as complete in view of the substantial compliance as also the specific requests of waivers with justification placed on record;
 - d. Consider and approve HNPCL's proposals including all requested regulatory treatments in the filing; and



- e. Consider and approve Tariff for HNPCL which will be paid by the DISCOMs during the control period for the project as approved by the Commission and shall be tried up subsequently.
- f. Give the liberty to file any addendum subsequently on the basis of the orders from Hon'ble APTEL in the pending appeal or any other higher court.
- g. Pass such other order(s) as the Hon'ble Commission may deem fit and proper with the facts and circumstances of the case.

HNPCL prays to the Hon'ble Commission that it may be pleased to:

- a) Consider the current HNPCL's application for determination of additional Capital Cost of the coal fired power station of 1040 MW (2 x 520 MW) capacity in the district of Vishakhapatnam for determination of Revised Tariff for supply of Electricity by a Generating Company to and purchase of Electricity by Distribution Licensees for the FY 2025, FY 2026, FY 2027, FY 2028 and FY 2029 and Multi Year ARR & Tariff Framework (MYF) for the Fifth Control Period (FY 2024-25 to FY 2028-29) for its Generation and Sale of Electricity business under Clause 10 of Regulation 1 of 2008 of Andhra Pradesh Electricity Regulatory Commission (Terms and Conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees) Regulations, 2008 read with section 61, 62 & 64 of the Electricity Act, 2003;
- b) Permit HNPCL to make relevant additional submissions when such information/details are available;
- c) Approve the Aggregate Revenue Requirement and the Tariff of HNPCL coal fired 1040 MW Thermal Power Project at Visakhapatnam;
- d) Condone any inadvertent omissions/errors/shortcomings and permit HNPCL to add/change/modify/alter this filing make further submissions as may be required at a future date;



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- e) Allow any other reliefs, order or direction to which this Hon'ble Commission deems fit to be issued; and
- f) Consider and approve a provisional Tariff for HNPCL which will be paid by the DISCOMs till the final Tariff order for the project is approved by the Commission and shall be trued up subsequently.
- g) Pass such other order(s) as the Hon'ble Commission may deem fit and proper with the facts and circumstances of the case.

Hinduja National Power Corporation Limited (HNPCL)
through Applicant




Garla Sreenivas
Deputy General Manager
Date: 13.03.2024
Place: Hyderabad



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Introduction

1.1. Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by a generating company to a distribution licensee.

1.2. HNPCL is hereby approaching the Hon'ble Commission for determination of Revised Tariff and Multi Year ARR & Tariff Framework in the Fifth Control Period (FY 2024-25 to FY 202-29) for supply of electricity from the power project to the DISCOMS.

CAPITAL COST OF THE PROJECT:

1.1. This Hon'ble Commission has approved the Capital cost of the Project vide Common order dated 01.08.2022 passed in O.P. No. 21 of 2015 and O.P. No. 19 of 2016. HNPCL had filed a review petition for this order and Hon'ble Commission set aside the review vide order dated 19.06.2023. Aggrieved by the said order, HNPCL has filed an appeal before the Hon'ble Appellate Tribunal being No. 743 of 2023 which is pending adjudication. HNPCL submits that it is filing the present application based on the total estimated capital cost of Rs. 5,810.75 Crores as approved by this Hon'ble Commission along with Additional Capitalization for Rs. 130.03 Crores totaling to Rs 5940.78 Crores. HNPCL reserves the right to approach this Hon'ble Commission with revised Capital Cost if any, subject to the decision of the Hon'ble Appellate Tribunal in Appeal No. 743 of 2023 or any other higher court.

1.2. Prefiltration work



It is submitted that HNPCL is meeting its process water requirement by means of desalination plant having capacity of 12.5 Million Litres per Day (MLD).

The desalination plant design was finalized in 2012, wherein the sea water parameters were analysed at the time of mid monsoon. At the said time, the maximum turbidity at 400 meters depth was found to be 3 (Nephelometric Turbidity Unit) NTU. The desalination system was also designed in consideration of the same. In regard to the same a copy of the Sea water Quality Report dated 16.08.2012 is attached hereto and marked as **Annexure- B**.

However, post the impact of Cyclone Hud-Hud, it was observed that the water turbidity of input water (consisting of impurities such as mud, sand, silt, aqua culture, etc.) varied from 1.5 to 45 NTU.

Further, it is submitted that variation in the water turbidity after the impact of Cyclone Hud Hud was also considered in a paper published by the Indian National Centre for Ocean Information Services in the *Current Science* Journal Volume 109, No.7 on 10.10.2015. In the said study, it was stated that there was an increase in the biological activity in the Coastal Region on account of the impact of Cyclone Hud-Hud due to which the nitrogenous nutrients, Po4 concentration, silica concentration in the water had doubled. A copy of the Study published by the Indian National Centre for Ocean Information Services in the *Current Science* Journal on 10.10.2015 is attached hereto and marked as **Annexure- C**. The file source link is as below: <https://incois.gov.in/documents/ResearchPapers/RP64.pdf>

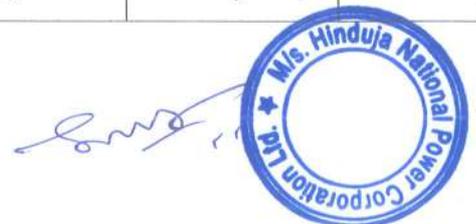


It is respectfully submitted that on account of the variation in the water turbidity post Cyclone Hud-Hud, the silt and sand coming from sea water began to damage the ultra-filtration and the Reverse Osmosis (RO) membranes of the Desalination System installed by HNPCL. As a result of the same, there was a reduction in water generation from the desalination plant to the extent that the desalination plant was only capable of treating 3 to 3.5 MLD of water which was not sufficient for continuous operation of HNPCL's plant.

In view of the above, HNPCL consulted with water treatment expert agencies in order to meet its required quantum of process water i.e., 5-6 MLD. The said expert agencies advised HNPCL to install a pre filtration system which will provide a constant supply of sea water at low turbidity of 2-3 NTU.

In furtherance to the same, it is necessary for HNPCL to install the pre-filtration system which will consist of a clarifier, dual multimedia filter and its auxiliaries. The cost estimate of the proposed pre-filtration system sought to be implemented by HNPCL, in terms of the offers received from water treatment agencies are as under:

Project Description	Duration	Start Date	Completion date	Budget
	(Months)			(Cr.)
Contract Finalisation & Design Approval (25% advance)	1	01-Apr-24	30-Apr-24	6.3
Civil work	8	01-May-24	31-Oct-24	11.7
Material delivery	3	01-Nov-24	31-Jan-25	2.24
Installation	5	01-Feb-25	30-Jun-25	3.2
Commissioning	1	01-July-25	31-July-25	0.57



Total (Excluding GST)				24.01
GST				28.33
IDC				1.70
Total				30.03

Therefore, it is respectfully submitted that this Hon'ble Commission may approve the cost estimate of Rs. 30.03 Crores related to the implementation of the pre-filtration system. It is submitted that the proposed pre-filtration system will provide a constant supply of sea water at low turbidity of 2-3 NTU, which is necessary for HNPCL to meet its process water requirement of 5-6 MLD. Lastly, it is submitted that the proposed prefiltration system is expected to be completed in FY 2025-26.

1.3. Sea water pipeline work

It is submitted that the HNPCL's plant is designed for a 'Once-through' cooling system which uses Sea Water drawn from the Bay of Bengal located adjacent to HNPCL's Plant.

The cold Sea Water (About 1,82,000 Cum/Hour) is drawn from the Intake Well located at 650 Meters from the coastline. The Sea Water is then conveyed through two Glass Reinforced Plastic Pipes (GRP Pipes) to the plant. Further, a Piled Jetty is constructed for carrying the Sea Water Intake Pipes. Initially, the Return (Warm) Water Pipes were also designed to be carried through Piled Jetty till 250 meters beyond the Intake well.



At the end of the Jetty, it was proposed to lay Six Pipeline segments extending to a semicircular arc to disperse the large quantity of Return Water to a wider area. 1600 mm outside diameter (OD) High Density Polyethylene Pipes had been proposed for this purpose and each of the line would have 16 Outlets (Diffusers) of 400 mm nominal bore (NB) to ensure that the Warm water is disposed in the Sea properly.

These High-Density Polyethylene (HDPE) Pipe segments were proposed to be laid on the Sea Bed and buried in the Sea Bed Soil later, with the Diffusers protruding above the Sea Bed to allow the Return water flow and mix with the surrounding water. However, it is submitted that at the time of the construction of the Jetty in October 2014, HNPCL had been impacted by Cyclone Hud-Hud which caused damage to a portion of the return line jetty beyond the 650 meters length. Further, the same has also resulted in substantial debris at the envisioned diffuser area and compromised the pipes strength.

In view of the same, HNPCL had to abandon the original design and the design was modified with a diffuser tank at 400 meters with 8 diffuser Glass Reinforced Plastic Pipes (GRP Pipes) of 1600 mm OD being carried to 900 meters along the sea bed.

It is submitted that over a period, it was observed during routine inspections, that the sub sea pipes had developed leakages. The minimum depth of sea water at the diffuser pipelines is 12 meters. HNPCL units have been in reserve shut down for a long period at frequent intervals since COD owing to continued litigations during 2018 to 2022 and there is a possibility of sand and silt ingress inside the piping during this time due to a lack of flow in the pipe.



Therefore, the system requires a thorough examination where in the submerged pipes need inspection for de-chocking and sustained damage. For checking, the pipes need to be extracted from sea bed, cleaned, and inspected for reuse. Thereafter, the unusable pipes need to be replaced with new pipes. The replacement of the unusable pipes with the new pipes would require the plant to be shut-down.

It is submitted that in order to minimize the shutdown period of HNPCL's plant, an additional chamber will be constructed parallel to the existing chamber and the downcomers will be connected to the newly constructed chamber. In executing the said exercise, a short shutdown of 2-3 days will be necessary for connecting the old and new chamber.

In respect of the above submission, the Project Cost estimate and timelines are as under:

Project Description	Duration	Start Date	Completion date	Budget
	(Months)			(Cr.)
Contract Finalisation & Design Approval	2	01-Apr-24	31-May-24	
Phase-1 Preparatory work (Construction of additional RCC tank and its attached system)	6	01-Jun-24	30-Nov-24	22
Phase-1 Marine works) (Recovery of existing pipes)	5	01-Dec-24	30-Apr-25	6.64
Phase-2 Preparatory work (procurement and fabrication of new pipes)*	6	01-Jun-25	30-Nov-25	23.3



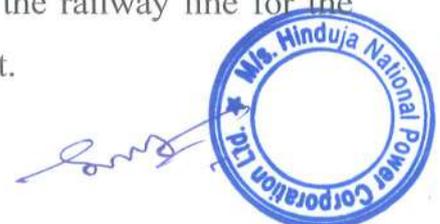
Phase-2 Marine work				
(laying of pipes and attaching to new tank)	3.5	01-Dec-25	19-Mar-26	24
Commissioning	5 days	20-Mar-26	25-Mar-26	
Total (Exc. GST)				75.94
GST				13.6692
IDT				5.376552
Contingency				5
Total (Inc. GST)				99.985752

In the above facts and circumstances, it is respectfully submitted that the above additional costs may be approved by this Hon'ble Commission as the execution of project is of utmost important to HNPCL. It is respectfully submitted that at any point of time the sub sea pipeline leakages may further increase and the same may also cause harm to the aquatic flora and fauna. Moreover, the sustainable operation of HNPCL's plant may also be endangered.

1.4. Railways

HNPCL has been actively pursuing the various options to implement the railway corridor as, in spite of repeated follow ups by HNPCL and by Special Secretary Energy Government of Andhra Pradesh, NTPC had showed its unwillingness in September 2023 to construct the Railway Corridor.

At present, HNPCL is in discussions with the Indian Railways for construction of the siding under the Indian Railway's recently announced Gati Shakti Scheme. The Indian Railways has in-principle agreed to consider the implementation of the said scheme for laying down the railway line for the Petitioner's Project which is a significant development.



HNPCL had approached the Indian Railways on around November 2023 to build the rail corridor (0-19 kms.) under the Gati Shakti Scheme [excluding the 5 km (19-24) stretch to be built by HNPCL], for the last mile connectivity for transportation of coal by rail directly to the plant.

HNPCL has appointed RITES Limited as consultants for the project and carry out the coordination with railways. RITES has indicated an estimated cost of Rs. 384 Crores (excluding land cost) for project commissioning and a timeline of 24-36 months for construction post land acquisition.

After the submission of the application by HNPCL to Indian Railways in December end, on 12.02.2024, a five-member team of railways has carried out a joint inspection of the proposed alignment of the corridor from Jaggyapalem to Duvada to the HNPCL plant entry including the merry go round (MGR) inside the plant. A pictorial chart of the proposed railway line is attached hereto and marked as **Annexure- D**. A pre-feasibility report prepared by RITES has been submitted with the railways. Railways will now carry out their internal assessment of feasibility and feedback is expected around 2nd week of March 2024.

In view of the above facts and circumstances, HNPCL craves liberty of this Hon'ble Commission, to approach the Commission after the DPR (detailed project report) is approved by the railways alongwith details of costs of the new rail corridor and estimated capital cost for the MGR, to file the required data for inclusion in the capital cost and MYT.

Without prejudice to the above, it is submitted that HNPCL has already sought extension of time to build the railway line before the Hon'ble Appellate Tribunal in Appeal No. 743 of 2023. Pursuant to the same, the Hon'ble Tribunal vide order dated 05.12.2023 had granted liberty to HNPCL to seek the extension of time before this Hon'ble Commission in the implementation of Railway Corridor in view of the subsequent developments regarding the same.



It is submitted that in furtherance to the above, HNPCL had filed Petition being O.P. No. 1 of 2024 which is pending adjudication before this Hon'ble Commission.

1.5. Flue Gas Desulfurization (FGD)

It is submitted that in terms of the Notification dated 31.03.2021, issued by the Ministry of Environment and Forest (MOEF), HNPCL has been categorised as "A" and is mandated to install FGD System by 31.12.2024. On account of the same, vide letter dated 21.01.2022, HNPCL has requested MOEF to extend the timelines in regard to the installation of the FGD system upto 31.12.2026 and to categorise HNPCL's power plant under category "C". The said request was made due to the fact that HNPCL's project had suffered a big setback owing to continued litigations during 2018 to 2022.

It is submitted that although the commissioning of the FGD by HNPCL would not be possible by 31.12.2024, however, HNPCL has already initiated the preparatory work for selection of technology required for the installation of FGD. Further, AP Discoms will also be closely associated with commissioning of the FGD System.

Lastly, HNPCL craves leave approach the State Commission at appropriate stage seeking for claims related to the installation of FGD system. The same would be in accordance with the liberty granted by this Hon'ble Commission vide order dated 01.08.2022.

1.6. Final Mega Power Project Status (MPP Status) –

The project cost submitted with this Hon'ble Commission in OP 21 of 2015 factors the Mega Power Project Status (MPP status) benefits availed by the



HNPCL to the tune of Rs. 706.31 Crores (inclusive of interest cost). This Hon'ble Commission vide Common Order dated 01.08.2022 has noted the above facts but has held that HNPCL would not be entitled to raise any claims on AP Discoms in future, in the event of non-grant of MPP status. However, HNPCL is at liberty to pursue the matter with the Central Government for grant of permanent MPP status to HNPCL's project and it may retain any gain derived by grant of the said status.

It is reiterated that HNPCL is actively pursuing the matter of MPP status with Ministry of Power / CEA. Further, HNPCL has also raised the issue of MPP Status in the appeal filed against the order dated 01.08.2022 being No. 743 of 2023. In terms of the same, HNPCL seeks liberty of this Hon'ble Court to approach this Hon'ble Commission if there is any additional cost incurred by HNPCL on account of non-grant of MPP Status, subject to the outcome of Appeal No. 743 of 2023.

Table 1 – Capital cost

Particulars	Cost	Remark
	Rs Cr	
Project cost	5,810.75	As per para 64 (XXVI) of APERC order dated 01.08.2022
Prefiltration work	30.03	As mentioned in Para 1.2
Sea water pipeline work	100.00	As mentioned in Para 1.3
Total	5940.78	

2. Aggregate Revenue Requirement & determination of Tariff for MYT Fifth Control Period from FY 2024-25 to FY 2028-29 - FIXED CHARGES

2.1. HNPCL in accordance with the Clause 10 of the APERC Tariff Regulations, 2008 and Hon'ble Commission Order dated 01.08.2022 is submitting its information for determination of ARR & Multi Year Tariff for its project,



i.e., coal fired 1040 MW (2 x 520 MW) Thermal Power Plant at Visakhapatnam proposed to supply entire power to the DISCOMS.

Operation and Maintenance Expenses

2.2. This Hon'ble Commission has approved O&M norms as per the applicable Central Electricity Regulatory Commission (CERC) Tariff Regulations for HNPCL in its Common order dated 01.08.2022 for 500 MW series.

It is submitted that the final tariff regulation applicable for the period FY 2024-25 to FY 2028-29 is yet to be issued by the CERC. In the absence of issuance of the CERC tariff regulations, HNPCL has projected the Operation and Maintenance Expenses for FY 2024-25 to FY 2028-29 with the draft CERC regulation No.L-1/268/2022/CERC Dated 04.01.2024 uploaded for stakeholders' comments. A copy of the draft CERC regulation No.L-1/268/2022/CERC Dated 04.01.2024 is attached hereto and marked as **Annexure E**. On the basis of the draft CERC tariff regulations the projected O&M Expenses for the Fifth control period from FY 2024-25 to FY 2028-29 is provided in the table below:

Table 2: O&M Expenses

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
O&M Expenses (Rs Crore)	272.69	288.81	305.86	323.86	342.89

It is submitted that HNPCL undertakes to revise the O&M cost in terms of the final CERC Tariff Regulations, 2024 to be issued by CERC. In consideration of the above, any changes in the final CERC Tariff Regulations may be adjusted at the time of true up.

In addition to the above, with respect to the Normative O&M costs, HNPCL would also be entitled for reimbursement for the Water Charges, Security



Expenses and Capital Spares in terms of Regulation 35 (1) (6) of the CERC Regulation 2019, issued on 07.03.2019 through supplemental bills.

Part Load Compensation

It is respectfully submitted that in terms of Schedule F Clause 1.2.5 of the Revised Consolidated PPA dated 16.02.2024, Monthly Part Load Compensation Charges is being claimed from AP Discoms in accordance with CERC (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016, notified on 6th April 2016, as amended from time to time.

Depreciation

2.3. HNPCL submits that this Hon'ble Commission has adopted the depreciation rate as 3.5% for first 20 years and 4% for balance 5 years for the term of the PPA in its Common order dated 01.08.2022. HNPCL has applied the same rate for the projections for the Fifth control period from FY 2024-25 to FY 2028-29.

2.4. The projected depreciation for the Fifth Control Period from FY 2024-25 to FY 2028-29 in accordance with the para 68 of the Common order dated 01.08.2022 provided in the table below:

Table 3: Depreciation

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Depreciation expense (Rs. Cr.)	199.58	200.37	204.13	204.13	204.13

Return on Capital Employed (RoCE)

2.5. Clause 12.1 a) of APERC Tariff Regulations, 2008 provides for computation methodology of RoCE considering the Original Capital Cost, accumulated depreciation, working capital & interest on working capital and weighted



average cost of capital (WACC). These components have been arrived at in the following paragraphs for computation of RoCE.

- (i) Capital Cost is considered as Rs. 5,810.75 Crores as per the Common order dated 01.08.2022 and additional capitalization for Rs. 130.78 Crores mentioned in Table 1: Capital Cost.
- (ii) Accumulated depreciation is considered by arriving at the cumulative depreciation for each financial year provided in Table 3: Depreciation for FY 2024-25 to FY 2028-29, above;
- (iii) Working capital requirement is considered as per the Table 4: Working Capital Requirement below; and
- (iv) WACC is considered as per the para's 3.13 to 3.15 below.

2.6. The working capital requirement is computed in accordance with the clause 12.4 of APERC Tariff Regulations, 2008:-

Table 4: Working Capital Requirement

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Working Capital requirement (Rs Crore)	910.42	918.52	924.93	932.92	938.08

2.7. HNPCL has applied the prescribed norms of Clause 12.4 of APERC Tariff Regulations, 2008 for computation of Working Capital requirements.

2.8. While computing the Working Capital requirement, cost of linkage coal has been considered as per the FSA with MCL. A copy of the FSA dated 26.08.2013 is attached hereto and marked as **Annexure F**. However, in case coal has to be procured from alternate sources (imported coal/e-auctions/others) in order to address the scenarios viz. (i) during exigencies should there be any shortfall of supply of coal by MCL or; (ii) requirement of washed coal as MCL does not have sufficient washery capacity in the



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country (iii) to maximize the Availability, HNPCL would approach the Hon'ble Commission for suitable revision in the Working Capital requirement.

2.9. Based on the original capital cost, accumulated depreciation and the working capital requirement for each of the financial year, the Regulated Rate Base (RRB) is computed as provided in the table below: -

Table 5: Regulated Rate Base

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Original Capital Cost (Rs Crore)	5,810.75	5,940.78	5,940.78	5,940.78	5,940.78
Less: Accumulated Depreciation (Rs Crore)	1,605.05	1,804.63	2,005.00	2,209.13	2,413.26
Working Capital (Rs Crore)	910.42	918.52	924.93	932.92	938.08
Regulated Rate base (Rs Crore)	5,116.12	5,054.67	4,860.72	4,664.57	4,465.60

2.10. As per clause 12.1 (a) of APERC Tariff Regulations, 2008, the normative debt/equity composition of the project for the MYF period as on commissioning date of the power plant, i.e., 70:30, is considered.

2.11. The debt: equity ratio for computation of WACC for the Fifth Control Period is considered 70:30 as prescribed in the regulation.

2.12. Cost of Debt is being computed by taking a weighted average of the Cost of Debt for financing Capital Cost and the Cost of Debt for funding the Working Capital. Cost of Debt being considered for funding the Capital Cost of the Generating Company is as per the actual interest rates of the long term debts arranged by the Generating Company. Cost of Debt for funding the Working Capital is considered as per the sanction for Working Capital.



A copy of the relevant extracts of the sanction for Working Capital is attached hereto and marked as **Annexure- G E**.

2.13. The Return on Capital Employed (RoCE) for the Fifth Control Period is computed as provided in the table below:-

Table 6: Return on Capital Employed (RoCE) (in Rs. Crore)

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Original Capital Cost	5,810.75	5,940.78	5,940.78	5,940.78	5,940.78
Accumulated Depreciation	1,605.05	1,804.63	2,005.00	2,209.13	2,413.26
Working Capital as per Regulations	910.42	918.52	924.93	932.92	938.08
Regulated Rate base	5,116.12	5,054.67	4,860.72	4,664.57	4,465.60
Debt to Equity Ratio	2.33	2.33	2.33	2.33	2.33
Cost of Debt	10.85%	10.85%	10.85%	10.85%	10.85%
Return on Equity	15.50%	15.50%	15.50%	15.50%	15.50%
WACC	12.25%	12.25%	12.25%	12.25%	12.25%
Total RoCE	626.57	619.10	595.31	571.26	546.87

Non-Tariff Income

2.14. HNPCL doesn't envisage any non-tariff income at the moment. However, in case there is any income on this account, it shall be accounted for during the true up exercise.

Other expenditure

2.15. Due to Change in law by Ministry of Environment Forest and Climate Change (MOEF) notifications vide notifications dated 31.12.2021 and




30.12.2022, and Ministry of Power notification dated 22.02.2022 HNPCL is incurring cost towards ash disposal from its plant and invoicing for reimbursement of the same through supplemental bills. This may be approved as other expenditure as per the clause 12.6 of APERC Tariff Regulations, 2008. A copy of the MOEF notifications dated 31.12.2021 and 30.12.2022 are attached hereto and marked as **Annexure- H**. A copy of the Ministry of Power notification dated 22.02.2022 is attached hereto and marked as **Annexure-I**.

Income Tax

2.16. Clause 12.5 of APERC Tariff Regulations, 2008 provides for consideration of Taxes on Income actually paid, limited to Tax on Return on Equity component of the RoCE. Therefore, HNPCL submits that it shall bill the above mentioned amount as per the provision to the DISCOMS.

Annual Fixed Charges

2.17. Based on the computation of each of the components, the Annual Fixed Charges arrived is provided in the table below:

Table 7: Annual Fixed Charges (in Rs. Crore)

Particular	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
O&M Expense	272.69	288.81	305.86	323.86	342.89
Return on Capital Employed (RoCE)	626.57	619.10	595.31	571.26	546.87



Depreciation	199.58	200.37	204.13	204.13	204.13
Other Expenditure					
Less: Non-tariff income					
Annual Fixed Costs (B)	1,098.83	1,108.27	1,105.31	1,099.24	1,093.89

3. Aggregate Revenue Requirement & determination of Tariff for MYT Fifth Control Period from FY 2024-25 to FY 2028-29 - ENERGY CHARGES

3.1. This Hon'ble Commission has approved the tariff for fourth Control period norms in line with the CERC norms and is as below.

Sr no	Descriptions	Norms
1	Station Heat Rate (Kcal/Kwh)	2372
2	Auxiliary Consumption	5.75%
3	Specific Fuel Oil Consumption (ml/Kwh)	0.5
4	Normative Availability	85%

3.2. It is submitted that HNPCL has filed an appeal challenging the above parameters and has requested for the consideration of the norms as prescribed by this Hon'ble Commission. The present petition is premised on the basis of the Common order dated 01.08.2022 and HNPCL craves liberty to claim the differential energy charge on the basis of decision of the Hon'ble Appellate Tribunal.

3.3. Considering Target Availability of 85%, the ex-bus sent out energy is computed based on Target Availability of 85% corresponding to clause 11.1. (a) of APERC Tariff Regulations, 2008, Target Plant Load Factor (PLF) of 85% corresponding to clause 15.1 (a) of APERC Tariff Regulations, 2008 and auxiliary consumption of 5.75% 11.1.2 (a) of APERC Tariff Regulations,



2008. The ex-bus sent out energy thus computed is provided in the table below:-

Table 8: Ex-bus sent out energy

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Gross Generation (MUs)	7,743.84	7,743.84	7,743.84	7,765.06	7,743.84
Net Generation (MUs)	7,298.57	7,298.57	7,298.57	7,318.57	7,298.57

3.4. The domestic coal procured by HNPCL through FSA is having GCV about 3118 kcal/kg (weighted average of October 2023 to December 2023) as received basis and the Station Heat Rate (SHR) 2372 Kcal/kWh in accordance with the this Hon'ble Commission's order dated 01.08.2022. This Hon'ble Commission has approved for margin recommended by CEA in the letter dated 18.10.2017 on loss of GCV measured at wagon top at unloading point which is about 120kcal/kg. The Secondary fuel is projected to have a GCV of 10,858 Kcal/litre (weighted average of October 2023 to December 2023). In case the actual supplied coal/Secondary fuel has a different GCV, adjustment in the energy charges shall be done under the Fuel Price Adjustment (FPA) mechanism.

3.5. HNPCL submits that it has executed FSA with MCL for 4.624 MTPA corresponding to 80% of PLF. In addition to the use of domestic coal as specified in the FSA, HNPCL be allowed to procure additional coal as per Coal India Limited /Ministry of Coal/Ministry of Power circulars as may be issued from time to time, over and above the quantity under Coal Supply Agreement as per the prices of FSA, to meet the shortfall of domestic coal, to maximise the Declared Capacity, achieve the Target Availability and



maximise generation. However, in order to address the scenarios viz. (i) during exigencies should there be any shortfall of supply of coal by MCL or; (ii) requirement of washed coal as MCL does not have sufficient washery capacity in the country (iii) to maximize the Availability, HNPCL proposes to meet its additional coal requirement by procuring coal from alternate sources (imported coal/e-auctions/others etc.). This has already been agreed between HNPCL and DISCOMS in the Revised Consolidated PPA dated 16.02.2024. The recovery on account of the above would be passed on to the AP Discoms under the Fuel Price Adjustment (FPA) mechanism or as directed by this Hon'ble Commission. In regard to the same Articles 2.8 and 2.9 of the Revised Consolidated PPA dated 16.02.2024 is as under:

“2.8. Use of Coal : Coal supplied under the Coal Supply Agreement shall be used exclusively for the Project unless otherwise expressly agreed by Procurers.

In addition to the use of domestic coal as specified in this clause, the Company shall be allowed to procure additional coal as per Coal India Limited /Ministry of Coal/Ministry of Power circulars as may be issued from time to time, over and above the quantity under Coal Supply Agreement as per the prices of fsa, to meet the shortfall of domestic coal, to maximise the Declared Capacity, achieve the Target Availability and maximise generation.

2.9. Alternate Coal:

The Parties agree that although HNPCL has 100% coal linkage on Normative Availability basis from Mahanadi Coal fields Limited, the Company shall be allowed, subject to the approval of the Procurers, as laid down herein, to import additional coal or procure it from other alternate sources, including but not limited to e-auction etc., to meet any short supply by MCL and/or to maximize its Declared Capacity and generation up to Normative Availability. For seeking the approval of the Procurers, the Company shall submit the details as under atleast 30 days prior to the date of supply of power on the basis of Alternate Coal. The Company shall, in addition to complying with other requirements laid down in this Agreement, intimate the Procurers about the alternate source of coal identified by it, including details of the cost, the variation of which will be subjected to the movement of index (applicable index for country of origin) or any substitute thereof that parties may mutually agree upon and GCV, the procedure for



procurement, the agreement to be executed with the alternate Coal Supplier, and such other information as may be desired by the Procurers. From the date of receipt of such information from the Company, Procurers shall respond within 15 days to permit use of Alternate Coal up to 30% by weight on a quarterly basis or any other agreed extended period. It is hereby clarified that any procurement of coal from the approved alternate source shall be limited to the short fall of coal from MCL and/or to maximize its Declared Capacity and generation up to the Normative Availability and shall be met with equivalent quality of indigenous/ imported coal on strict requirement basis in terms of GCV. The approval for usage of alternate coal price adjusted to third party quality reports and payment of Tariff will be followed as per the procedures specified in this Agreement.”

3.6. Coal supplied by Mahanadi Coalfields Ltd shall be transported by Indian Railways’ existing infrastructure up to Railway sidings at Gangavaram, Bayavaram and Kantakapalli and from there it is being transported through trucks by road. HNPCL has proposed to consider this rail cum road mode option for the control period. The proposed railway line connecting Jaggyapalem station (located at about 24 Kms. from HNPCL site) to plant is under developmental stage. Once the Railway line is constructed, HNPCL will submit all details to Commission to revise the Fixed cost and Variable cost and will adjust the differential in true up.

3.7. The cost of coal has been taken as per the prevalent base rates by Coal India Ltd. and railway freight charges for the month January 2024 and assumed to be constant for the remaining part of the Control Period as a reference basis. HNPCL will invoice monthly billing in line with this Hon’ble Commission’s regulations on the basis of weighted average cost and GCV for prior three months. Adjustment in the energy charges regarding cost of primary fuel and secondary fuel shall be done under the Fuel Price Adjustment (FPA) in line



with this Hon'ble Commission's regulations on monthly basis as per the actual fuel cost.

3.8. Based on the above, the energy charges have been computed for the MYT Fifth Control Period from FY 2024-25 to FY 2028-29 as provided in table below:-

Table 9: Energy Charges

Particular	Unit	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Rate of Energy Charges (REC)	Rs/kWh	3.38	3.38	3.38	3.38	3.38
Energy Charges	Rs Crore	2,466.55	2,466.55	2,466.55	2,473.31	2,466.55

4. Summary of Aggregate Revenue Requirement & determination of Tariff for MYT Fifth Control Period from FY 2024-25 to FY 2028-29 - FIXED & ENERGY CHARGES

4.1. Based on the computation of fixed charges and energy charges in Section 3 and Section 4 respectively, the Aggregate Revenue Requirement of HNPCL for MYT Fifth Control Period is provided below:-

Table 10: Consolidated ARR for MYT Fifth Control Period (in Rs. Crore)

Particular	Unit	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Annual Energy Charges (A)	Rs Crore	2,466.55	2,466.55	2,466.55	2,473.31	2,466.55
Fixed Costs						
O&M Expense	Rs Crore	272.69	288.81	305.86	323.86	342.89
Return on Capital Employed (RoCE)	Rs Crore	626.57	619.10	595.31	571.26	546.87



Depreciation	Rs Crore	199.58	200.37	204.13	204.13	204.13
Less: Non-tariff income	Rs Crore					
Annual Fixed Costs (B)	Rs Crore	1,098.83	1,108.27	1,105.31	1,099.24	1,093.89
Total ARR	Rs Crore	3,565.39	3,574.83	3,571.86	3,572.56	3,560.44

4.2. HNPCL requests the Hon'ble Commission to approve the ARR as proposed in the table above.

5. Prayers to the Hon'ble Commission

HNPCL prays to the Hon'ble Commission that it may be pleased to:-

- Include the current Petition for seeking for determination of Capital Cost, MYT of the coal fired station of 1040 MW (2 x 520 MW) Thermal Power Project, Vishakhapatnam and the subsequent submissions under clause 10.8 of Regulation of Andhra Pradesh Electricity Regulatory Commission (Terms and conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees) Regulations, 2008, read with sections 61, 62 & 64 of the Electricity Act, 2003;
- Permit HNPCL to make relevant additional submissions when such information/details are available;
- Approve the Aggregate Revenue Requirement and the Tariff of HNPCL coal fired 1040 MW Thermal Power Project at Visakhapatnam.
- Condone any inadvertent omissions/errors/shortcomings and permit HNPCL to add/change/modify/alter this filing make further submissions as may be required at a future date;
- Allow any other reliefs, order or direction to which this Hon'ble Commission deems fit to be issued; and



- f) Pass such other order(s) as the Hon'ble Commission may deem fit and proper with the facts and circumstances of the case.

Hinduja National Power Corporation Limited

(APPLICANT)

Through



G. Sreenivas

Garla Sreenivas

Deputy General Manager

DATE: 13-03-2024

PLACE: HYDERABAD



Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-1	Summary Sheet	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-4	Details of Foreign loans	
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New Projects	
FORM-5B	Break-up of Capital Cost for Coal/Lignite based projects	
FORM-5C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	
FORM-5D	Break-up of Construction/Supply/Service packages	
FORM-6	Financial Package upto COD	
FORM-7	Details of Project Specific Loans	
FORM-8	Details of Allocation of corporate loans to various Projects	
FORM-11	Statement of Depreciation	✓
FORM-12	Calculation of Depreciation Rate	
FORM-13	Calculation of Weighted Average Rate of Interest on Actual Loans!	
FORM-13A	Calculation of Return on Capital Employed	✓
FORM-14	Working Capital	✓
FORM-15	Draw Down Schedule for Calculation of IDC & Financing Charges	
FORM-16	Calculation Of Operation And Maintenance Expenses	
FORM-17	Details Of Operation And Maintenance Expenses	
FORM-18	Details/Information to be Submitted in respect of Fuel for Computation of Energy Charged	✓
Other Information/ Documents		
Sl. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Station setup by a company making tariff application for the first time to APERC)	
2	Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexure on COD of the Station for the new station & for the relevant years	
3	Copies of relevant loan Agreements	
4	Copies of the approval of Competent Authority for the Capital Cost and Financial Package.	
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	
7	Copies of the BPSA/PPA with the beneficiaries, if any	
8	Detailed note giving reasons of time and cost over run, if applicable.	
9	Any other relevant information (Please Specify)	

Electronic copy in the form of CD shall also be furnished.



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Summary Sheet

PART-I
FORM-1

Name of the Company: Hinduja National Power Corporation Limited.
 Name of the Power Station: HNPCL 1040 MW (2x520 MW) Thermal Power Project
 Region: Visakhapatnam, Andhra Pradesh

S. No.	Particular	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
1						
1.1	Depreciation		20,037	20,413	20,413	20,413
1.2	Interest on Loan	19,958				
1.3	Return on Capital Employed (RoCE) ²	62,657	61,910	59,531	57,126	54,687
1.4	Advance against Depreciation ⁴					
1.5	Interest on Working Capital ⁵	9,241	9,323	9,388	9,469	9,521
1.6	O&M Expenses ⁶	27,269	28,881	30,586	32,386	34,289
	TOTAL	1,19,124	1,20,150	1,19,919	1,19,393	1,18,910
2						
2.1	Rate of Energy Charge from Primary Fuel (REC) ⁷	3.33	3.33	3.33	3.33	3.33
2.2	Rate of Energy Charge from Secondary Fuel (REC) ⁸	0.05	0.05	0.05	0.05	0.05
2.3	Rate of Energy Charge ex-bus(REC) ^{8,9}	3.38	3.38	3.38	3.38	3.38

¹ Details of Calculations have been furnished in the attached forms corresponding to items in this summary sheet.

² The Return on Capital Employed computed as per Regulation No. 1 of 2008 notified by the Hon'ble APERC does not consider parameters like Interest on loans, Advance Against Depreciation, Interest on Working Capital, etc. Therefore, the same have not been separately considered while computing Return on Capital Employed. Computation of RoCE can be found in Form 13-A

⁴ Advance Against Depreciation - The Regulation No. 1 of 2008 notified by the Hon'ble APERC does not provide for Advance Against Depreciation. Therefore, the same has not been computed.

⁵ Interest on Working Capital - Computation of Interest on Working Capital has been explained in Form 13A

⁶ O&M Expense - HNPCL has considered the CERC norms for O&M from draft regulation. HNPCL requests Commission to consider Normative CERC O&M rates for the purpose of computation of Tariff subject to final CERC regulation.

⁷ Only coal is envisaged to be the primary fuel for the Power Plant in contention. Therefore, 2.1 has been computed only for Domestic Coal as a Primary Fuel. Use of Alternate fuel is to be paid as per actuals.

⁸ The total energy charges have been worked out based on ex-bus energy considering the Normative Auxiliary Consumption, Normative PLF and Normative SHR (as mentioned in Form 3) scheduled to be sent out.

⁹ No escalation has been taken in fuel cost and is to be paid as per actuals.



Fuel Cost Computation			PART-I Form 1 - Annex				
Name of the Company:		Hinduja National Power Corporation Limited.					
Name of the Power Station:		HNPL 1040 MW (2x520 MW) Thermal Power Project					
Region:		Visakhapatnam, Andhra Pradesh					
(Rs Lakhs)							
S. No.	Particular	Units	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
	No. of Days of Operation in the Financial year		365	365	365	366	365
	Capacity	MW	1,040	1,040	1,040	1,040	1,040
	Secondary Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
	PLF	%	85%	85%	85%	85%	85%
	Gross Generation	MUs	7,744	7,744	7,744	7,765	7,744
	Net Generation	MUs	7,299	7,299	7,299	7,319	7,299
	Auxiliary Consumption	%	5.75%	5.75%	5.75%	5.75%	5.75%
	Station Heat Rate (SHR)	kCal/kWh	2372	2372	2372	2372	2372
	Cost of Domestic Coal (FY 23-24) ¹	Rs./MT	3,949	3,949	3,949	3,949	3,949
	Road Transportation Cost of Coal till railway line is ready	Rs./MT					
	Effective Landed Cost of Domestic Coal	Rs./MT	3,949	3,949	3,949	3,949	3,949
	Cost of Fuel Oil	Rs./KL	84,783	84,783	84,783	84,783	84,783
	Calorific Value of Domestic Coal	kCal/KG	3117.80	3117.80	3117.80	3117.80	3117.80
	Calorific Value of Fuel Oil	kCal/L	10,858	10,858	10,858	10,858	10,858
	Total Heat Value Required	MKCL	1,83,68,388	1,83,68,388	1,83,68,388	1,84,18,713	1,83,68,388
	Heat Value through Fuel Oil	MKCL	42,039	42,039	42,039	42,155	42,039
	Domestic Coal	MKCL	1,83,26,349	1,83,26,349	1,83,26,349	1,83,76,558	1,83,26,349
	Units Generated using Domestic Coal	MUs	7,726	7,726	7,726	7,747	7,726
	Units Generated using Fuel Oil	MUs	18	18	18	18	18
	Fuel Required						
	Total Quantity of coal required ²	MT	61,62,567	61,62,567	61,62,567	61,79,450	61,62,567
	Total Quantity of Fuel Oil required	KL	3,872	3,872	3,872	3,883	3,872
2.1	Rate of Energy Charge from Primary Fuel (REC) ³	Rs./KWHr	3.33	3.33	3.33	3.33	3.33
	Quantity of Domestic Coal required per Unit (Qp)n	kg/kWHr	0.80	0.80	0.80	0.80	0.80
	Landed Cost of Domestic Coal (Pp)	Rs./Kg	3.95	3.95	3.95	3.95	3.95
2.2	Rate of Energy Charge from Secondary Fuel (REC) ³	Rs./KWHr	0.05	0.05	0.05	0.05	0.05
	Quantity of Oil required per Unit (Qs)n	ml/kWHr	0.50	0.50	0.50	0.50	0.50
	Landed Cost of Oil (Ps)	Rs./mL	0.08	0.08	0.08	0.08	0.08
	Auxiliary Consumption	%	5.75%	5.75%	5.75%	5.75%	5.75%
2.3	Rate of Energy Charge ex-bus(REC) ^{4,5}		3.38	3.38	3.38	3.38	3.38

Note:

¹ The Cost of coal is as per the agreements entered into by HNPCL and as per the FSA signed between the supplier and HNPCL. The Landed costs considered are inclusive of all the charges borne for supplying the coal to the plant periphery including transportation.

² The total energy charges have been worked out based on ex-bus energy considering the Normative Auxiliary Consumption, Normative PLF, Normative specific FO consumption, and Normative SHR (as mentioned in Form 3) scheduled to be sent out.

³ Only coal is envisaged to be the primary fuel for the Power Plant in contention. Therefore, 2.1 has been computed only for Domestic Coal as a Primary Fuel.

⁴ The total energy charges have been worked out based on ex-bus energy considering the Normative Auxiliary Consumption, Normative PLF, Normative specific FO consumption, and Normative SHR (as mentioned in Form 3) scheduled to be sent out.

⁵ No Escalation of cost of coal considered in this petition as this will be paid as per actuals.



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Name of the Company:		Hinduja National Power Corporation Limited.		PART-I	
Name of the Power Station:		HNPC 1040 MW (2x520 MW) Thermal Power Project		FORM-2	
Plant Characteristics					
Name of the Company		Hinduja National Power Corporation Limited. The company is head quartered in Mumbai with its registered office in Hyderabad.			
Name of the Power Station		HNPC 1040 MW (2x520 MW) Thermal Power Project			
Basic Characteristics of the Plant		The power plant has two sub-critical units of 520 MW each. The steam generator is designed for 100% pulverised coal as the principal fuel. Once through cooling system has been implemented for condenser cooling purpose.			
Special Features of the plant		1) The largest ever size VT pump of capacity 45500 cubic meter/hr. with head of 27 meter being used in COUNTRY for CW system. 4 Nos. such pumps have been commissioned. 2) The diameter of sea water intake pump house through well sinking technology for the CW system is the largest in COUNTRY each having diameter 22 meters, located 650 Meter away from sea shore deep inside the sea. Total 2 nos of such wells have been constructed.			
Site specific features		Project site is located on the coast of the Bay of Bengal at Palavalasa village in Visakhapatnam district in the State of Andhra Pradesh and is in close proximity to rail, road and port (Gangavaram and Vizag ports).			
Special Technological Features		1) Sea water reverse osmosis (SWRO) based Desalination plant of capacity 12.5 MLD has been installed to cater normal water as well as potable water requirement of the plant thus eliminating the dependency on external source of sweet water requirement. 2) DM plant is based on latest UFRO+EDI technology has been installed at plant which is the first ever plant commissioned in INDIA supplied by GE.			
Environmental Regulation related features		The following have been installed for air pollution control and mitigation: a) Dust Suppression system b) Electrostatic Precipitators c) Continuous emission monitoring systems d) Greenbelt e) Space has been provided for FGD.			
Any other special features					
Fuel Details ¹		Primary Fuel		Secondary Fuel	
		Coal		HFO/LDO	
Installed Capacity		Unit-1 520 MW		Unit-2 520 MW	
Date of commercial Operation (COD) ²		Unit 1		Unit 2	
		11.01.2016		03.07.2016	
Type of Cooling System ³		Open Cycle Once Through Cooling System			
Type of Boiler Feed Pump		1 no. Motor driven BFP and 2 nos Turbine driven BFPs			
<p>¹ Only coal is envisaged to be the primary fuel for the Power Plant in contention.</p> <p>² The plant is already commissioned.</p> <p>³ Once through Cooling System uses sea water for the purpose of cooling. The rise in temperature of the sea water being let into the sea would be maintained within the range specified in the Environmental Clearance</p>					
				 Petitioner	



Normative Parameters considered for tariff computations		Part I Form 3				
Name of the Company: Name of the Power Station:		Hinduja National Power Corporation Limited. HNPC 1040 MW (2x520 MW) Thermal Power Project				
Particulars	Unit	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Rate of Return on Capital Employed	%	12.25%	12.25%	12.25%	12.25%	12.25%
Target Availability	%	85%	85%	85%	85%	85%
Target PLF	%	85%	85%	85%	85%	85%
Auxiliary Energy Consumption ²	%	5.75%	5.75%	5.75%	5.75%	5.75%
Gross Station Heat Rate ²	kCal / kWh	2,372	2,372	2,372	2,372	2,372
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
O&M Cost	Rs. Lakh /MW	26.22	27.77	29.41	31.14	32.97
Cost of Coal - Lignite for WC ¹	in months	2 months	2 months	2 months	2 months	2 months
Cost of secondary fuel Oil for WC ¹	in months	2 months	2 months	2 months	2 months	2 months
O&M Expenses for WC	in months	1 month	1 month	1 month	1 month	1 month
Maintenance Spares for WC	%	1%	1%	1%	1%	1%
Receivables for WC	in months	2 months	2 months	2 months	2 months	2 months
Payables for fuel (including oil and secondary fuel oil)	in months	1 month	1 month	1 month	1 month	1 month
Prime Lending Rate of SBI as on ³	%	10.15%	10.15%	10.15%	10.15%	10.15%
Incentive Rate	Paise /kWh	25	25	25	25	25

¹ The Values considered as notified by APERC in Regulation 1 of 2008 for Coal based generating stations and norms as prescribed by APERC order dated 01.08.2022

² Normative values are being considered for the operating parameters as per APERC order dated 01.08.2022

³ Working capital interest rate as on 26.10.2023



Petitioner



Part 1 FORM-5	
Abstract of Admitted Capital Cost for the	
Name of the Company :	Hinduja National Power Corporation Limited.
Name of the Power Station :	HNPCL 1040 MW (2x520 MW) Thermal Power Project
Capital Cost as admitted by CERC (Rs. Cr)	5810.75
Capital Cost admitted as on (Give reference of the relevant CERC order with Petition NO. & Date)	APERC order dated 01.08.2022 in O.P.No.19 of 2016
Foreign Component , if any (In Million US \$ or the relevant Currency)	
Foreign Component (In Million US \$)	84.72
Foreign Exchange rate considered for US \$	53.97
Foreign Component (In Million €)	62.72
Foreign Exchange rate considered for €	70.85
Domestic Component (Rs. Cr.)	6,658
Total Project cost ¹	7,758
Foreign Exchange rate considered for the admitted cost ²	NA
Total Capital cost admitted (Rs. Cr) ^{3 4}	5810.75

Note

1. Total Project cost as per application in OP 21 of 2016 was 7758.25 CR
2. The exact approved Foreign component is not known
3. As per the APERC order dated 08.01.2022
4. Additional Capitalisation of Rs 130.03 Cr is considered in Fy 25-26 which is not part of admitted capital cost of 5810.75 Cr



[Signature]

Statement Of Depreciation						PART-I FORM-11	
Name of the Company:		Hinduja National Power Corporation Ltd.					
Name of the Power Station:		HNPCCL 1040 MW (2x520 MW) Thermal Power Project					
Financial Year	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	Amount in Lacs	
Depreciation on Capital Cost							
Depreciation recovered during the year ¹	19,958	20,037	20,413	20,413	20,413	20,413	
Depreciation and Advance against depreciation recovered during the year ²							
Cumulative Depreciation and Advance against depreciation recovered upto the year	1,80,463	2,00,500	2,20,913	2,41,326	2,61,739		

1 Depreciation has been considered as per the APERC order 01.08.2022

2 As the Regulation 1 of 2008 notified by the Hon'ble APERC does not permit Advance Against Depreciation, the same has been considered to be Nil.



Calculation of Return on Capital Employed

PART-I
FORM-13A

Name of the Company: Hinduja National Power Corporation Limited.
Name of the Power Station: HNPCL 1040 MW (2x520 MW) Thermal Power Project

Amount in Lacs

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Regulated Rate Base	5,11,612	5,05,467	4,86,072	4,66,457	4,46,560
WACC ¹	12.25%	12.25%	12.25%	12.25%	12.25%
RoCE	62,657	61,910	59,531	57,126	54,687

The Computation of the individual Parameters have been explained in the following table

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
Regulated Rate Base	5,11,612	5,05,467	4,86,072	4,66,457	4,46,560
Original Capital Cost	5,81,075	5,94,078	5,94,078	5,94,078	5,94,078
Depreciation	19,958	20,037	20,413	20,413	20,413
Accumulated Depreciation	1,60,505	1,80,463	2,00,500	2,20,913	2,41,326
Working Capital as per Regulations	91,042	91,852	92,493	93,292	93,808
Short term - Benchmark PLR Considered	10.15%	10.15%	10.15%	10.15%	10.15%
Total Interest on Working Capital	9,241	9,323	9,388	9,469	9,521
WACC ¹	12.25%	12.25%	12.25%	12.25%	12.25%
Debt Percentage	70.00%	70.00%	70.00%	70.00%	70.00%
Equity Percentage	30.00%	30.00%	30.00%	30.00%	30.00%
Cost of Funds					
Interest Rate on Loans	11.01%	11.01%	11.01%	11.01%	11.01%
Interest Rate on Working Capital (Short term - Benchmark PLR)	10.15%	10.15%	10.15%	10.15%	10.15%
Cost of Debt ²	10.85%	10.85%	10.85%	10.85%	10.85%
Return on Equity	15.50%	15.50%	15.50%	15.50%	15.50%
WACC	12.25%	12.25%	12.25%	12.25%	12.25%
RoCE	62,657	61,910	59,531	57,126	54,687

¹ Details are provided in accordance with clause 4 of APERC Regulation 5 of 2005

² Cost of Debt is considered as weighted average of Interest Rate on Loans and Interest on Working Capital



		Working Capital				PART-I FORM-14	
Name of the Company:		Hinduja National Power Corporation Limited.					
Name of the Power Station:		HNPC/L 1040 MW (2x520 MW) Thermal Power Project					
Sr. No	Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	Amount in Lacs
1	Cost of Coal / Lignite ¹	40,562	40,562	40,562	40,673	40,562	40,562
2	Cost of Secondary Fuel Oil ¹	547	547	547	549	547	547
3	O&M Expenses	2,272	2,407	2,549	2,699	2,857	2,857
4	Maintenance Spares	8,792	9,310	9,859	10,440	11,055	11,055
5	Receivables	59,423	59,580	59,531	59,543	59,341	59,341
6	Payables for fuel	20,555	20,555	20,555	20,611	20,555	20,555
	Total Working Capital	91,042	91,852	92,493	93,292	93,808	93,808

¹ For Coal based generating stations



[Handwritten Signature]

Petitioner

Details / Information to be submitted in respect of fuel for computation of energy charges ¹

Name of the Company: **Hinduja National Power Corporation Limited.**
Name of the Power Station: **HNPCL 1040 MW (2x520 MW) Thermal Power Project**

Sr. No.	Month	Unit	For preceeding 1st Month - Oct'23	For preceeding 2nd Month - Nov'23	For preceeding 3rd Month - Dec'23
1	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	3,72,207	3,23,340	2,72,828
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)			
3	Coal supplied by Coal/Lignite Company (1+2)	(MMT)			
4	Normative Transit & Handling Losses (For coal/Lignite based Projects)	(MMT)	2,978	2,587	2,183
5	Net coal / Lignite Supplied (3-4)	(MMT)	3,69,230	3,20,753	2,70,645
6	Amount charged by the Coal /Lignite Company	(Rs.)	67,01,08,557	54,54,21,152	44,00,90,537
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)			
8	Total amount Charged (6+7)	(Rs.)	67,01,08,557	54,54,21,152	44,00,90,537
9	Transportation charges by rail/ship/road transport	(Rs.)	83,77,11,806	71,92,22,874	60,99,08,954
10	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)			
11	Demurrage Charges, if any	(Rs.)			
12	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)			
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	83,77,11,806	71,92,22,874	60,99,08,954
14	Total amount Charged for coal/lignite supplied including Transportation (8+13)	(Rs.)	1,50,78,20,363	1,26,46,44,026	1,04,99,99,491
15	Weighted average GCV of coal/ Lignite as fired	(kCal/Kg)	2,901	3,023	3,103



**HINDUJA NATIONAL POWER CORPORATION LIMITED**

CERTIFIED TRUE COPY OF RESOLUTION PASSED AT THE BOARD MEETING OF HINDUJA NATIONAL POWER CORPORATION LIMITED HELD ON TUESDAY, 21ST DECEMBER, 2021 THROUGH VIDEO CONFERENCING AT REGISTERED OFFICE: HINDUJA HOUSE, 171, DR. ANNIE BESANT ROAD, WORLI, MUMBAI – 400 018.

LEGAL REPRESENTATION AND AUTHORISED SIGNATORIES FOR THE STATUTORY PURPOSE

"RESOLVED THAT Mr. Venugopal Keshanakurthy, Whole-time Director & CEO; Mr. Sabyasachi Mukherjee, Senior Vice President; Mr. Prasenjit Guha, Vice President – (Legal) & Company Secretary; Mr. Satheesh Kumar, Vice President – Finance; Mr. B.V. Jayaram, Associate Vice President - F & A; Mr. Garla Sreenivas, Senior Manager – Corporate Relations; Mr. Satyanarayana U, Senior Manager – Finance & Accounts; Mr. G V Aditya, Senior Officer – HR & Welfare; Mr. M Rajini Kanth, Authorised Signatory of the Company be are and hereby authorised severally to represent the Company before the various Statutory Authorities / Local Bodies/ Agencies and they are authorised severally to sign / execute on behalf of the Company, Gate Passes, Invoices, Applications, Forms, Letters and other related documents as may be necessary and as may be required under Income - tax, Central Excise, Customs Act, Goods and Services Tax-both Central and State, AP Tax on Entry of Goods into local areas, Service Tax, Weights and Measures, Professional Tax and Sales Tax laws, Factories Act, Industrial Disputes Act, Employees PF & Misc. Provisions Act, Local body/ Statutory authorities like Telephone, Internet, Local Municipal Laws, Octroi, Entry Tax/ Cess, Local Authority etc."

"RESOLVED FURTHER that the aforesaid representative are authorized severally to sign all papers/documents/applications related to new registration or cancellation /surrender of existing registration under Income-tax Act, 1961, Customs Act, 1962 Central Excise Act 1944 including Service tax, Goods and Services Tax-both Central and State, AP Tax on Entry of Goods into local areas, Professional Tax and Sales Tax laws, Factories Act, Industrial Disputes Act, Employees PF & Misc. Provisions Act, Weights and Measures Act, Local Municipal Laws, Local Sales Tax Act / VAT Act and Central Sales Tax Act and addition of new products/items/new business activities including amendment in the existing certificate in the state of Andhra Pradesh."

"RESOLVED FURTHER THAT the aforesaid representatives are authorized severally to appear/represent before Commissioner or other authorities with individual capacity or along with advocate under the provisions of the Income-tax Act, 1961, Customs Act 1962, Central Excise Act 1944 including Service tax, Goods and Services Tax-both Central and State, AP Tax on Entry of Goods into local areas, Professional Tax Act, Weights and Measures Act, Factories Act, Industrial Disputes Act, Employees PF & Misc. Provisions Act, Local Municipal Laws, Local Sales Tax Act / VAT Act and Central Sales Tax Act for assessment / hearing of appeal and sign all applications, deed, documents, refund claims and obtain all types of statutory forms including issue and signing of statutory forms on behalf of the company."

"RESOLVED FURTHER THAT in addition to earlier instructions Mr. Venugopal Keshanakurthy, Whole-time Director & CEO; Mr. Sabyasachi Mukherjee, Senior Vice President; Mr. Prasenjit Guha, Vice President – (Legal) & Company Secretary; Mr. Satheesh Kumar, Vice President – Finance; Mr. B.V. Jayaram, Associate Vice President – F & A; Mr. Garla Sreenivas, Senior Manager – Corporate Relations; Mr. G V Aditya, Senior Officer – HR & Welfare; Mr. M Rajini Kanth, Authorised Signatory of the Company be are and hereby authorised severally to sign, verify, declare and execute Vakalatnama in the name of advocate, plaints, written statement, counter claim, petitions, appeals, review, application, affidavit and paper of every description that may be necessary to be signed, verified and executed for the purpose of any suit, actions, appeals,

CIN: U40109TG1994PLC017199

Corporate Office: Hinduja House, 171 Dr. Annie Besant Road, Worli, Mumbai-400 018 www.hindujagroup.com Tel.:(+91) 22 24960707 Fax.:(+91) 22 24960747
Registered Office: C/o. Gulf Oil Corporation Limited, Post Bag No.1, Kukatpally, Sanathnagar I.E., Hyderabad 500 018





HINDUJA NATIONAL POWER CORPORATION LIMITED

reviews, legal applications, arbitrations, criminal and civil proceeding of any kind whatsoever in any court of law and justice, tribunals, regulatory bodies for all matters of the Company and including but not limited to initiate action under section 138 of the Negotiable Instruments Act 1881 at appropriate forums as may be necessary.”

“RESOLVED FURTHER THAT Copies of the foregoing resolutions certified to be true by the Chairman / Director / Secretary of the Company be furnished to the relevant authorities and they be requested to act thereon.”

Certified True Copy
For **Hinduja National Power Corporation Limited**

Prasenjit Guha
Vice President- Legal & Company Secretary

Name & Address of the Customer : M/s. HNPCL – Palavalasa Village, Sea Water Project, Vizag.		Test Report No.: BALL/12-13/ML – 1189/2	
		Issue Date	: 27.08.2012
		Your Ref	: Nil
		Date	: 16.08.2012
Sample Particulars: Sea Water – 400 mtrs – Sample No. 2			
Qty	: 3 Nos. x 5 Litre	Date of Registration	: 18.08.2012
Test Required:	As given below	Date of commencement of testing	: 20.08.2012
Method of Test :	IS : 3025& APHA 21 st Edition	Date of completion of testing	: 25.08.2012
		Sample condition at receipt	: Found ok
		Sample tested as received	
Sampling Method: Sample collected and submitted by the customer			Page: 1 of 3

Test Results

Sl. No.	Tests	Results
1.	Colour (Pt Co Units)	5
	Odour	Un – Objectionable
2.	pH	7.79
3.	Turbidity, NTU	3
4.	Total Suspended solids, mg/l	18
5.	Total Dissolved solids, mg/l	35780
6.	Dissolved Oxygen, mg/l	5.6
7.	Oil & Grease, mg/l	< 1
8.	Calcium as Ca, mg/l	641
9.	Fluorides as F, mg/l	1.30
10.	Magnesium as Mg, mg/l	1191
11.	Nitrates as NO ₃ , mg/l	2
12.	Sulphates as SO ₄ , mg/l	2544
13.	Chlorides as Cl ₂ , Mg/l	19000
14.	Zinc as Zn, mg/l	0.03
15.	Boron as B mg/l	4.10
16.	Arsenic as As, mg/l	< 0.01
17.	Lead as Pb, mg/l	<0.01
18.	Cadmium as Cd, mg/l	<0.01
19.	Manganese as Mn, mg/l	<0.01
20.	Copper as Cu, mg/l	<0.01
21.	Total Iron as Fe, mg/l	0.10
22.	Chromium as Cr, mg/l	<0.01
23.	Reactive silica as SiO ₂ , mg/l	3.4
24.	Colloidal Silica , mg/l (Non-reactive)	1.6

Interpretation of results: Nil

Deviation from test method and condition: Nil

Authorized Signatory
(C. Radha Krishna)
DGM – Laboratory.

Name & Address of the Customer : M/s. HNPCL – Palavalasa Village, Sea Water Project, Vizag.		Test Report No.: BALL/12-13/ML – 1189/2	
		Issue Date	: 27.08.2012
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		Sample condition at receipt	: Found ok
		Sample tested as received	
Sampling Method: Sample collected and submitted by the customer			Page: 2 of 3

Test Results

Sl. No.	Tests	Results
25.	Free Dissolved CO ₂ , mg/l	0.88
26.	B O D at 20° C for 5 days, mg/l	3
27.	C O D, mg/l	18
28.	Total hardness as CaCO ₃ ,mg/l	6500
29.	Phosphates as PO ₄ , mg/l	0.03
30.	Nitrite as NO ₂ , mg/l	< 0.01
31.	Ammonia as NH ₃ , mg/l	< 0.01
32.	Residual free chlorine / oxidants	Nil
33.	E C (micro Siemens/cm)	60700

Interpretation of results: Nil

Deviation from test method and condition: Nil

Authorized Signatory
(C. Radha Krishna)
DGM – Laboratory.

Biological implications of cyclone *Hudhud* in the coastal waters of northwestern Bay of Bengal

A very severe cyclonic storm, *Hudhud*, equivalent to a category-4 hurricane on the Saffir–Simpson hurricane wind scale (SSHWS), originated in the Andaman Sea on 6 October 2014. The cyclone propagated west-northwestward and made landfall near Visakhapatnam, northern coast of Andhra Pradesh on 12 October 2014. The study area, Gopalpur (southern coast of Odisha) was in the active influence zone of *Hudhud* and in close proximity (~260 km north) to the landfall point (Figure 1). This region is an important mass nesting rookery for vulnerable olive ridley sea turtles, which aggregate for breeding in the coastal waters off Odisha from November to May¹. This region is also identified as a time-series station under the SATellite Coastal and Oceanographic REsearch (SATCORE) programme coordinated by the Indian National Centre for Ocean Information Services (INCOIS); it is being monitored since 2009.

Tropical cyclones are known to be important episodic events for injecting nutrients into the euphotic layer for enhancement of phytoplankton through disturbance induced by physical processes². It has been observed that productivity changes with the occurrence of cyclones in the Bay of Bengal (BoB)³. However, the degree of enhanced productivity largely depends upon the intensity of the cyclone along with its residence period.

Recent studies using satellite data have reported a significant increase in chlorophyll *a* (Chl *a*) concentration and decrease in sea-surface temperature (SST) in the coastal waters off Gopalpur, subsequent to the passage of cyclone *Phailin*³. The reported increase in Chl *a* was 710% with a positive anomaly of 4.35 mg/m³ with respect to ten years of climatology. SST showed a significant negative anomaly of 2.5°C (ref. 3). Anticipating the possible effect of cyclone *Hudhud* on water quality, pre- (8–11 October) and post-*Hudhud* (14–20 October) field campaigns were conducted in the coastal waters of Gopalpur (Figure 1). During each survey water samples were collected from three locations and analysed for inorganic nutrients [nitrite + nitrate (NO₂ + NO₃ = NO_x), phosphate (PO₄)

and silicate (SiO₄)], total suspended matter (TSM), dissolved oxygen (DO), Chl *a* and phytoplankton (qualitative and quantitative). Nutrients and DO were analysed using spectrophotometric method and Winkler's titrimetric method respectively⁴. TSM was measured gravimetrically. Spectrophotometric analysis of Chl *a* was carried out following acetone extraction method⁵. Water sample (1 litre) for the phytoplankton study was collected in pre-cleaned plastic bottles and preserved with 1% Lugol's iodine–2% neutral formalin until analysis. Standard taxonomic keys were referred for identification and species were enumerated under a Sedgewick–Rafter counting chamber.

The result of the analysis showed highest abundance of total phytoplankton during post-*Hudhud* phase (81.97×10^4 cells l⁻¹) in comparison with pre-*Hudhud* phase (34.20×10^4 cells l⁻¹) (Figure 2). During the pre-*Hudhud* phase, diatoms were observed as the most dominant group (70–79%) of phytoplankton, wherein *Asterionellopsis glacialis* predominated (Figure 3). During post-*Hudhud* phase, a shift in species dominance was noticed with predominance of *Thalassiothrix longissima*.

However, diatoms remained as the dominant phytoplankton group during both phases, with a marginal increase in contribution to the total phytoplankton population.

During pre-*Hudhud* phase, nitrogenous nutrients (NO_x) were observed at a concentration of ~1 μmol/l, which increased fourfold subsequent to the passage of the cyclone. NO_x is one of the major environmental factors regulating primary productivity in the study area⁶. Similar to NO_x, a twofold increase in PO₄ concentration was recorded during post-*Hudhud* phase. PO₄ ranged from 0.79 to 1.35 μmol/l and 1.49 to 2.53 μmol/l respectively, during pre- and post-*Hudhud*. The silicate concentration ranged between 2.99 and 3.77 μmol/l during the pre-*Hudhud* phase (Figure 2). After the passage of the cyclone, SiO₄ concentration varied between 4.82 and 11.38 μmol/l. SiO₄ is the most important nutrient that promotes phytoplankton, specifically diatom growth and is reported to be one of the limiting nutrients in the study area^{7,8}. Hence, this twofold increase in SiO₄ concentration during the post-*Hudhud* period might have fueled diatom growth, preferably for *T. longissima* to preponderate. The predominating

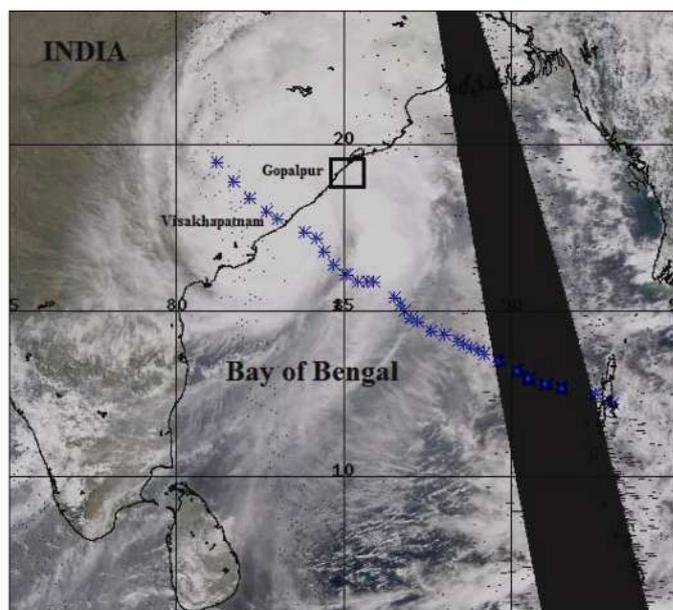


Figure 1. A true colour composite image from MODIS-Aqua overlaid with the track of cyclone *Hudhud* (star). The rectangular box shows the *in situ* sampling area.

SCIENTIFIC CORRESPONDENCE

chain-forming diatom, *T. longissima* might have contributed significantly to the increased Chl *a* during the post-*Hudhud* phase⁹.

The high values of nutrients observed during the post-*Hudhud* phase could be attributed to strong winds and heavy precipitation-induced freshwater influx as well as suspension and re-suspension of nutrients in the water column. The daily

precipitation peaked at 80 mm during the landfall period (11–13 October 2014) (source: <http://as.ori.nic.in/rainfall/Pub-RainChart.asp>). This was also evident from the concentration of TSM which increased from 5.98 ± 1.57 to 19.43 ± 8.12 mg/l during the pre- and post-*Hudhud* phases respectively (Figure 2).

There was significant increase in Chl *a* from pre- (1.58 – 2.28 mg/m³) to post-

Hudhud (2.57 – 6.62 mg/m³) phase (Figure 2). This increase was linearly correlated with variability in the nutrients. A strong positive correlation was observed between Chl *a* and NO_x (Pearson's $r = 0.73$) and PO₄ (0.71), whereas SiO₄ was found to be limiting phytoplankton growth because of rapid consumption of elevated SiO₄ by diatoms⁸. In consonance with the increase in Chl *a*, phytoplankton abundance was also high after the passage of *Hudhud* compared with before. The increase in Chl *a* concentration during the post-*Hudhud* phase may have been due to the combined effect of nutrient entrainment from river influx and mixing resulting from the cyclone. This proliferation in phytoplankton productivity may lead to blooms. On the other hand, cyclone-induced new production may also boost fisheries in this region by enriching the food chain.

After witnessing a significant elevation of Chl *a* in nearshore coastal waters, further attempts were made to map Chl *a* to understand its spatial extent. The level-2 data of Ocean Colour Monitor-2 (OCM-2) were acquired from INCOIS ground station. The pre- (2–11 October 2014) and post-*Hudhud* (13–21 October 2014) composite images of Chl *a* revealed a significant increment in concentration along the track of the cyclone subsequent to its passage in BoB (Figure 4). Coastal waters in its vicinity also showed enhanced Chl *a* during the post-*Hudhud* period. A similar pattern of enhanced Chl *a* along the track of tropical cyclone *Phailin* was also observed earlier in this Bay³.

The above analysis provides evidence that cyclone *Hudhud* exerted an effect on primary productivity in the coastal waters of northwestern BoB. The cyclone-induced changes in primary producers and water quality may alter the feeding grounds of migratory olive ridleys in BoB. Sea turtles may change their re-migration intervals in response to food availability, which may be affected by cyclone-induced changes in surface current and thermohaline circulation patterns^{10–12}. A shift in phytoplankton species dominance after the passage of *Hudhud* may result in changes in the community structure in the study area. Cyclone-influenced biogeochemistry of the study area needs to be further monitored to understand its possible effect on fisheries and marine communities.

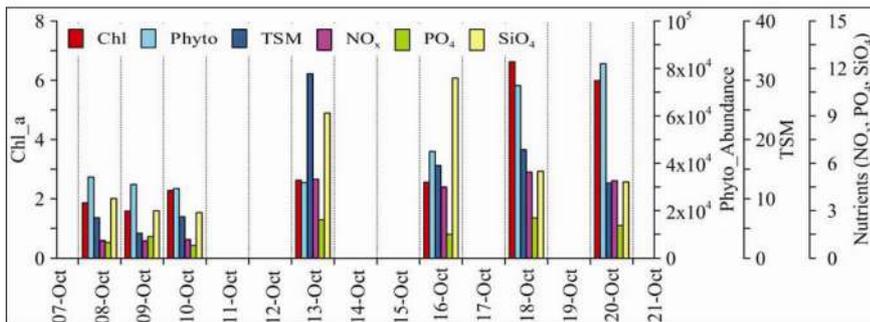


Figure 2. Average distribution of Chl *a* (mg/m³), phytoplankton abundance (cells/l), TSM (mg/l), NO_x (µmol/l), PO₄ (µmol/l) and SiO₄ (µmol/l) during pre- and post-phases of cyclone *Hudhud*.

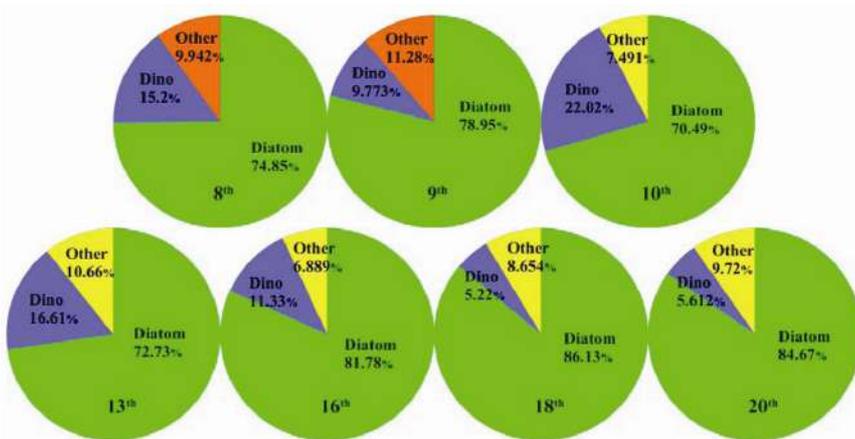


Figure 3. Relative abundance of phytoplankton groups during pre- and post-*Hudhud* phase.

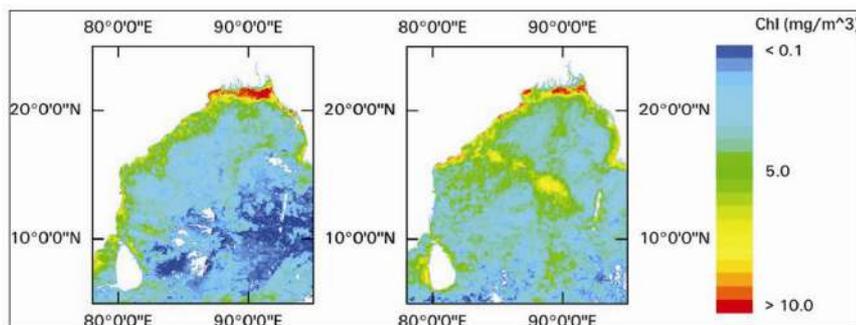


Figure 4. Composite images of Chl *a* generated from OCM-2 data for the period of pre-*Hudhud* (left panel) and post-*Hudhud* (right panel).

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Spider feeding on a Vespertilionid bat from Kerala, South India

Insectivorous bats occupy a relatively safe position in the food web, usually being predated upon only by owls, hawks and snakes^{1–3}. Bats predated upon by spiders is a rare phenomenon and reports on the same in the Oriental region are rare^{4,5}. Only a few chiropterologists and arachnologists have ever seen a bat being predated upon by a spider in the field^{6–9}. Many field biologists and ecologists with special interest in such an ecological relationship between the two taxa have spent decades in the field with little success. There have been only 52 reports on bats being predated by spiders from across the globe over the past hundred years¹⁰. The infrequency of such reports implies that mortality of bats due to spiders is an extremely rare event, or it may be rarely observed and/or reported.

Of the 52 published reports mentioned earlier, only 2 are from India^{4,5}, including one from Chinnar Wildlife Sanctuary in Kerala. Here we report an additional record of bat predation by a spider from the Kerala Agricultural University main campus, Thrissur district, Kerala, South India.

The first report of bat being caught in a spider web was in 1842 by Cantor¹¹. The earliest report from India was by Bhattacharya⁴ in which a pipistrelle, *Pipistrellus* sp., was caught in the web of a Sparassid spider, *Heteropoda venato-*

ria, but the spider failed to feed on the bat. The second report from India was from Chinnar Wildlife Sanctuary; a Theraphosid spider, *Poecilotheria rufilata* fed on *Pipistrellus ceylonicus*⁵.

Giant golden silk orb weavers of genus *Nephila* feed primarily on small insects like jewel beetles. However, they have been observed to go for large catches like cicadas, moths, grasshoppers, dragonflies, damselflies, large beetles, bats, fish, frog, lizards, snakes and rats as well¹⁰. There was an unsuccessful attempt of a *Nephila* spider trying to feed on a Grey-breasted Prinia, *Prinia hodg-*

*sonii*¹² (size 110 mm), at the Kerala Agricultural University main campus, Thrissur district (S. Sarath, 2011, pers. commun.).

On 25 November 2013, during the course of a regular bird-watching trail at the Botanical Garden of Kerala Agricultural University, Thrissur district, Kerala, India (Figure 1) (10°32'52.4"N, 76°17'12.4"E, altitude ~50 m), we made an interesting observation. At around 12:30 h, we saw a Giant Wood Spider (*Nephila pilipes*, family Nephilidae) feeding on a prey, which initially looked like a dry leaf to us. The spider web was on a *Lagerstroemia*

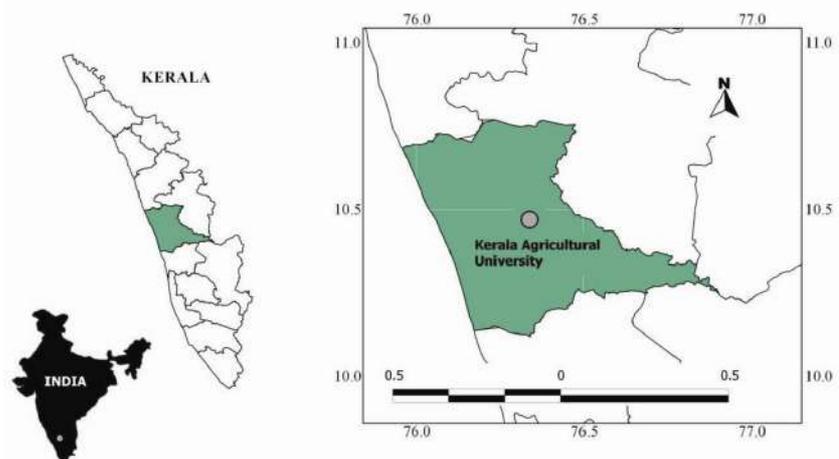
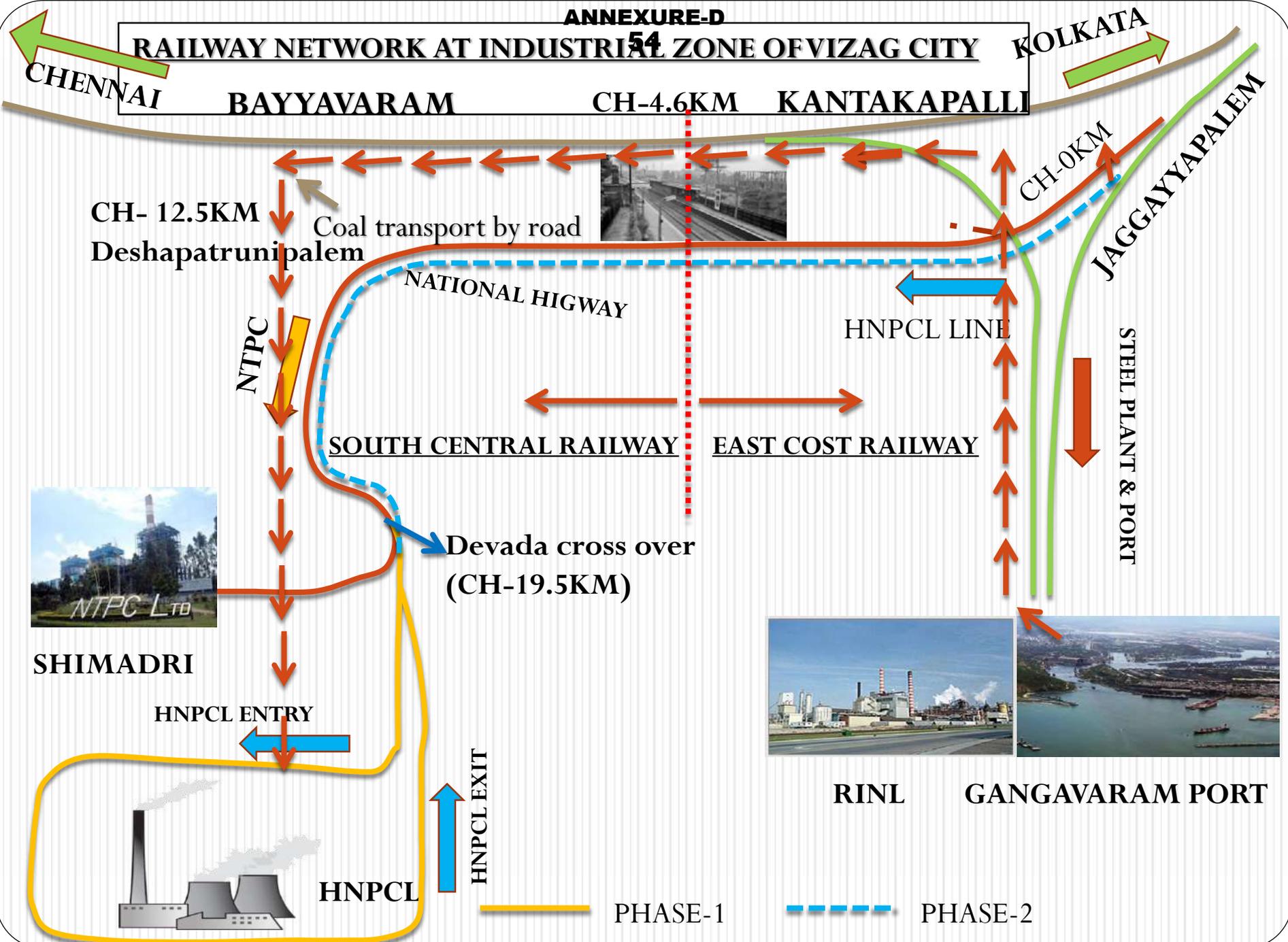


Figure 1. Location map of the Kerala Agricultural University main campus at Thrissur.

ANNEXURE-D

RAILWAY NETWORK AT INDUSTRIAL ZONE OF VIZAG CITY



CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

No.L-1/268/2022/CERC

Dated 4th January, 2024

(DRAFT NOTIFICATION)

In the exercise of powers conferred under section 178 of the Electricity Act, 2003 (36 of 2003) read with Section 61 thereof and all other powers enabling it in this behalf, and after previous publication, the Central Electricity Regulatory Commission hereby makes the following regulations, namely:

CHAPTER – 1

PRELIMINARY

1. **Short title and commencement.** (1) These regulations may be called the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

(2) These regulations shall come into force on 1.4.2024, and, unless reviewed earlier or extended by the Commission, shall remain in force for a period of five years from 1.4.2024 to 31.3.2029:

Provided that where a generating station or unit thereof and transmission system or an element thereof, has been declared under commercial operation before the date of commencement of these regulations and whose tariff has not been finally determined by the Commission till that date, tariff in respect of such generating station or unit thereof and transmission system or an element thereof for the period ending 31.3.2024 shall be determined in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 as amended from time to time.

2. **Scope and extent of application.** (1) These regulations shall apply to all cases where tariff for a generating station or a unit thereof and a transmission system or an element thereof is required to be determined by the Commission under section 62 of the Act read with section 79 thereof:

Provided that any generating station for which agreement(s) have been executed for the supply of electricity to the beneficiaries on or before 5.1.2011 and the financial closure for the said generating station has not been achieved by 31.3.2024, such projects shall not be eligible for determination of tariff under these regulations unless fresh consent of the beneficiaries is obtained and furnished.

These regulations shall also apply in all cases where a generating company has the arrangement for the supply of coal or lignite from the integrated mine(s) allocated to it, for one or more of its specified end use generating stations, whose tariff is required to be determined by the Commission under section 62 of the Act read with section 79 thereof.

(2) These regulations shall not apply to the following cases: -

- (a) Generating stations or transmission systems whose tariff has been discovered through tariff based competitive bidding in accordance with the guidelines issued by the Central Government and adopted by the Commission under section 63 of the Act;
- (b) Generating stations based on renewable sources of energy whose tariff is determined in accordance with the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020.

3. **Definitions.** - In these regulations, unless the context otherwise requires: -

- (1) 'Act' means the Electricity Act, 2003 (36 of 2003);
- (2) 'Additional Capital expenditure' means the capital expenditure incurred, or projected to be incurred after the date of commercial operation of the project by the generating company or the transmission licensee, as the case may be, in accordance with the provisions of these regulations;
- (3) 'Additional Capitalisation' means the additional capital expenditure admitted by the Commission after prudence check, in accordance with these regulations;

(4) 'Admitted capital cost' means the capital cost which has been allowed by the Commission for servicing through tariff after due prudence check in accordance with the relevant tariff regulations;

(5) 'Annual Target Quantity' or 'ATQ' in respect of an integrated mine(s) means the quantity of coal or lignite to be extracted during a year from such integrated mine(s) corresponding to 85% of the quantity specified in the Mining Plan;

(6) 'Ancillary Service' or 'AS' in relation to power system operation means the service necessary to support the grid operation in maintaining power quality, reliability and security of the grid and includes Primary Reserve Ancillary Service, Secondary Reserve Ancillary Service, Tertiary Reserve Ancillary Service, active power support for load following, reactive power support, black start and such other services as defined in the Grid Code;

(7) 'Auxiliary Energy Consumption' or 'AUX' in relation to a period in case of a generating station means the quantum of energy consumed by auxiliary equipment of the generating station, such as the equipment being used for the purpose of operating plant and machinery including switchyard of the generating station and the transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;

Provided that auxiliary energy consumption shall not include energy consumed for the supply of power to the housing colony and other facilities at the generating station and the power consumed for construction works at the generating station and integrated mine(s);

Provided further that auxiliary energy consumption for compliance with revised emission standards, sewage treatment plant and external coal handling plant (jetty and associated infrastructure) shall be considered separately.

(8) 'Auxiliary energy consumption for emission control system' or 'AUXe' in relation to a period in

the case of coal or lignite based thermal generating station means the quantum of energy consumed by auxiliary equipment of the emission control system of the coal or lignite based thermal generating station in addition to the auxiliary energy consumption under clause (7) of this Regulation;

(9) 'Auditor' means an auditor appointed by a generating company or a transmission licensee, as the case may be, in accordance with the provisions of sections 224, 233B and 619 of the Companies Act, 1956 (1 of 1956), as amended from time to time or Chapter X of the Companies Act, 2013 (18 of 2013) or any other law for the time being in force;

(10) 'Beneficiary' in relation to a generating station covered under clauses (a) or (b) of sub-section 1 of section 79 of the Act, means a distribution licensee who is purchasing electricity generated at such generating station by entering into a Power Purchase Agreement either directly or through a trading licensee on payment of capacity charges and energy charges;

Provided that where the distribution licensee is procuring power through a trading licensee, the arrangement shall be secured by the trading licensee through back to back power purchase agreement and power sale agreement.

Provided further that beneficiary shall also include any person who has been allocated capacity in any inter-State generating station by the Government of India.

(11) 'Capital Cost' means the capital cost as determined in Regulation 19 of these regulations in respect of generating station or transmission system, as the case may be, and Regulation 41 of these regulations in respect of integrated mine(s);

(12) 'Capital Spares' means spares individually costing above Rs. 20 lakh, which is maintained by the generating company or the transmission licensee over and above the initial spares.

(13) 'Change in Law' means the occurrence of any of the following events:

- (a) enactment, bringing into effect or promulgation of any new Indian law; or
- (b) adoption, amendment, modification, repeal or re-enactment of any existing Indian law; or
- (c) change in interpretation or application of any Indian law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation or application; or
- (d) change by any competent statutory authority in any condition or covenant of any consent or clearances or approval or licence available or obtained for the project; or
- (e) coming into force or change in any bilateral or multilateral agreement or treaty between the Government of India and any other Sovereign Government having implications for the generating station or the transmission system regulated under these regulations.

(14) 'Commission' means the Central Electricity Regulatory Commission referred to in sub-section (1) of section 76 of the Act;

(15) 'Communication System' means communication system as defined in sub clause (h) of clause (i) of Regulation 2 of the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017;

(16) 'Competitive Bidding' means a transparent process for procurement of equipment, services and works in which bids are invited by the project developer by open advertisement covering the scope and specifications of the equipment, services and works required for the project, and the terms and conditions of the proposed contract as well as the criteria by which bids shall be evaluated, and shall include domestic competitive bidding and international competitive bidding;

(17) 'Cut-off Date" shall be the last day of the financial year closing after thirty six months from the date of commercial operation of the project, except in case of integrated mine(s);

(18) 'Date of Commercial Operation' or 'COD' in respect of a thermal generating station or hydro generating station or transmission system or communication system shall have the same meaning as defined in the Grid Code, as amended from time to time:

Provided that Date of Commercial Operation of integrated mine(s) shall have the same meaning as specified in Regulation 5 of these regulations;

(19) '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;

(20) 'Date of Commencement of Production' in respect of integrated mine(s) means the date of touching of coal or lignite, as the case may be, as declared by the generating company;

(21) 'Declared Capacity' or 'DC in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any time-block of the day as defined in the Grid Code or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification in these regulations;

(22) 'De-capitalisation' for the purpose of the tariff under these regulations, means a reduction in Gross Fixed Assets of the project as admitted by the Commission corresponding to the inter-unit transfer of assets or the assets taken out from service;

(23) 'De-commissioning' means removal from service of a generating station or a unit thereof or transmission system including communication system or element thereof, after it is certified by the Central Electricity Authority or any other authorized agency, either on its own or on an application made by the project developer or the beneficiaries or both, that the project cannot be operated due to non-performance of the assets on account of technological obsolescence or uneconomic operation or

due to environmental concerns or safety issues or a combination of these factors;

(24) 'Design Energy' means the quantum of energy which can be generated in a 90% dependable year with 95% installed capacity of the hydro generating station;

(25) 'Element' means an asset which has been distinctively defined under the scope of the transmission project in the Investment Approval, such as transmission lines, including line bays and line reactors, substations, bays, compensation devices, Interconnecting Transformers which can be put to use.

(26) 'Emission control system' means a set of equipment or devices required to be installed in a coal or lignite based thermal generating station or unit thereof to meet the revised emission standards;

(27) 'Escrow account' means the account for deposit and withdrawal of mine closure expenses of integrated mine(s), maintained in accordance with the guidelines issued by the Coal Controller, Ministry of Coal, Government of India;

(28) 'Existing Project' means the generating station and the transmission system which has been declared under commercial operation on a date prior to 1.4.2024;

(29) 'Expansion project' shall include any addition of new capacity to the existing generating station or augmentation of the transmission system, as the case may be;

(30) 'Expenditure Incurred' means the fund, whether the equity or debt or both, actually deployed and paid in cash or cash equivalent, for the creation or acquisition of a useful asset and does not include commitments or liabilities for which no payment has been released;

(31) 'Extended Life' means the life of a generating station or unit thereof or transmission system or element thereof beyond the period of useful or operational life, as may be determined by the Commission on case to case basis;

(32) 'Force Majeure' for the purpose of these regulations means the events or circumstances or combination of events or circumstances, including those stated below, which prevent the generating company or transmission licensee from completing or operating the project, and only if such events or circumstances are not within the control of the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:

- (a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or
- (b) Any act of war, invasion, armed conflict or act of a foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- (c) Industry wide strikes and labour disturbances having a nationwide impact in India; or
- (d) Delay in obtaining statutory approval for the project except where the delay is attributable to the project developer;

(33) 'Fuel Supply Agreement' means the agreement executed between the generating company and the fuel supplier for the generation and supply of electricity to the beneficiaries;

(34) 'Generating Station' shall have the same meaning as defined under sub-Section 30 of Section 2 of the Act and, for the purpose of these regulations, shall also include stages or blocks or units of a generating station;

(35) 'Generating Unit' or 'Unit' in relation to a thermal generating station (other than combined cycle thermal generating station) means steam generator, turbine-generator and auxiliaries, or in relation

to a combined cycle thermal generating station, means turbine-generator and auxiliaries or combustion turbine-generator, associated waste heat recovery boiler, connected steam turbine-generator and auxiliaries, and in relation to a hydro generating station means turbine-generator and its auxiliaries;

(36) 'Grid Code' means the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023;

(37) 'Gross Calorific Value' or 'GCV' in relation to a thermal generating station means the heat produced in kCal by the complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be;

(38) 'GCV as Received' means the GCV of coal as measured at the unloading point of the thermal generating station through collection, preparation and testing of samples from the loaded wagons, trucks, ropeways, Merry-Go-Round (MGR), belt conveyors and ships in accordance with the IS 436 (Part-1/ Section 1)- 1964:

Provided that the measurement of coal shall be carried out through sampling by a third party to be appointed by the generating companies in accordance with the guidelines, if any, issued by the Central Government:

Provided further that samples of coal shall be collected either manually or through hydraulic augur or through any other method considered suitable, keeping in view the safety of personnel and equipment:

Provided also that the generating companies may adopt any advanced technology for the collection, preparation and testing of samples for measurement of GCV in a fair and transparent manner;

(39) 'Gross Station Heat Rate' or 'SHR' means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals of a thermal generating station;

(40) 'Implementation Agreement' means any agreement or covenant entered into (i) between the transmission licensee and the generating company or (ii) between the transmission licensee and developer of the interconnected transmission system for the execution of generation and transmission projects in a coordinated manner, laying down the project implementation schedule and mechanism for monitoring the progress of the projects;

(41) 'Indian Governmental Instrumentality' means the Government of India, Governments of State (where the project is located) and any ministry or department or board or agency controlled by the Government of India or the Government of State where the project is located, or quasi-judicial authority constituted under the relevant statutes in India;

(42) 'Infirm Power' means electricity injected into the grid prior to the date of commercial operation of a unit of the generating station in accordance with Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023;

(43) 'Input Price' means the price of coal or the price of lignite (including transfer price of lignite in respect of existing lignite mines) sourced from the integrated mines at which the coal or lignite is transferred to the generating station for the purpose of computing the energy charges for generation and supply of electricity to the beneficiaries and determined in accordance with Chapter 9 of these regulations;

(44) 'Installed Capacity' or 'IC' means the summation of the name plate capacities of all the units of the generating station or the capacity of the generating station reckoned at the generator terminals, as may be approved by the Commission from time to time;

(45) 'Integrated Mine' means the captive mine (allocated for use in one or more identified generating

stations) or basket mine (allocated to a generating company for use in any of its generating stations) or both being developed by the generating company for supply of coal or lignite to one or more specified end use generating stations for generation and sale of electricity to the beneficiaries;

(46) 'Inter-State Generating Station' or 'ISGS ' has the meaning as assigned in the Grid Code;

(47) 'Investment Approval' means approval by the Board of the generating company or the transmission licensee or Cabinet Committee on Economic Affairs (CCEA) or any other competent authority conveying administrative sanction for the project, including funding of the project and the timeline for the implementation of the project:

Provided that the date of Investment Approval shall be reckoned from the date of the resolution of the Board of the generating company or the transmission licensee where the Board is competent to accord such approval and from the date of sanction letter of competent authority in other cases;

Provided further that in respect of the integrated mine(s), funding and timeline for implementation shall be indicated separately and distinctly in the Investment Approval;

Provided further that where investment approval includes both the generating station and the integrated mine(s), the funding and timeline for implementation of the integrated mine(s) shall be worked out and indicated separately and distinctly in the Investment Approval.

(48) 'Landed Fuel Cost' means the total cost of coal (including biomass in case of co firing), lignite or the gas/naphtha/liquid fuel delivered at the unloading point of the generating station and shall include the base price or input price, washery charges wherever applicable, transportation cost (overseas or inland or both) and handling cost, charges for third party sampling and applicable statutory charges;

(49) 'Loading Point' in respect of integrated mine(s) means the location of railway siding or silo or

the coal handling plant or such other arrangements like a conveyor belt, whichever is nearest to the mine, for despatch of coal or lignite, as the case may be;

(50) 'Long-Term Customer' shall have the same meaning as 'Long Term Customer' as defined in the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009;

(51) 'Maximum Continuous Rating' or 'MCR' in relation to a generating unit of the thermal generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a block of a combined cycle thermal generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water or steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions;

(52) 'Mine Infrastructure' shall include assets of the integrated mine(s) such as tangible assets used for mining operations, being civil works, workshops, immovable winning equipment, foundations, embankments, pavements, electrical systems, communication systems, relief centres, site administrative offices, fixed installations, handling arrangements, crushing and conveying systems, railway sidings, pits, shafts, inclines, underground transport systems, hauling systems (except movable equipment unless the same is embedded in land for permanent beneficial enjoyment thereof), land demarcated for afforestation and land for rehabilitation and resettlement of persons affected by mining operations under the relevant law;

(53) 'Mining Plan' or 'Mine Plan' in respect of integrated mine(s) means a plan prepared in accordance with the Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining Plan for the coal and lignite block issued by the Ministry of Coal, Government of India as amended from time to time or provisions of the Mineral Concession Rules,

1960, as amended from time to time and approved under clause (b) of sub-section (2) of section 5 of the Mines and Minerals (Development and Rehabilitation) Act, 1957 by the Central Government or by the State Government, as the case may be;

(54) 'New Project' means the generating station or unit thereof or the transmission system or element thereof achieving its commercial operation on or after 1.4.2024;

(55) 'Non-Pit Head Generating Station' or 'Non-Pit Head Power Plant' means coal and lignite based generating stations other than Pit Head Generating Stations.

(56) 'Operation and Maintenance Expenses' or 'O&M expenses' means the expenditure incurred for operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, maintenance, repairs and maintenance spares, other spares of capital nature valuing less than Rs. 20 lakhs, additional capital expenditure of an individual asset costing up to Rs. 20 lakhs, consumables, insurance and overheads and fuel other than used for generation of electricity:

Provided that for integrated mine(s), the Operation & Maintenance Expenses shall not include the mining charge paid to the Mine Developer and Operator, if any, engaged by the generating company and the mine closure expenses.

(57) 'Original Project Cost' means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date, and as admitted by the Commission;

(58) 'Peak Rated Capacity' in respect of integrated mine(s) means the peak rated capacity of the mine, as specified in the Mining Plan;

(59) 'Pit Head Generating Station' or 'Pit Head Power Plant' means as defined under The Environment (Protection) Rules, 1986.

(60) 'Plant Availability Factor' or '(PAF)' in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during the period expressed as a percentage of the installed capacity in MW less the auxiliary energy consumption and auxiliary energy consumption for emission control system as per these regulations;

(61) '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:

$$PLF - 10000 \times \sum_{i=1}^N \frac{SG_i}{[N \times IC \times (100 - AUX_n - AUX_{en})]} \%$$

Where,

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

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

N = Number of time blocks during the period,

AUX_n = Normative auxiliary energy consumption as a percentage of gross energy generation; and

AUX_{en} = Normative auxiliary energy consumption for emission control system as a percentage of gross energy generation, wherever applicable.

(62) 'Procedure Regulations' means the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023;

(63) 'Project' means:

- i) in the case of a thermal generating station, all components of the thermal generating

station and including an integrated coal mine, biomass pellet handling system, pollution control system, and effluent treatment plan, as may be required;

- ii) in the case of a hydro generating station, all components of the hydro generating station including the dam, intake water conductor system, power generating station, as apportioned to power generation; and
- iii) in case of transmission, all components of the transmission system, including the communication system;

(64) 'Prudence Check' means scrutiny of the reasonableness of any cost or expenditure incurred or proposed to be incurred in accordance with these regulations by the generating company or the transmission licensee, as the case may be;

(65) 'Pumped Storage Hydro Generating Station' means a hydro generating station which generates power through energy stored in the form of water energy, pumped from a lower elevation reservoir to a higher elevation reservoir;

(66) 'Rated Voltage' means the voltage at which the transmission system is designed to operate and includes such lower voltage at which any transmission line is charged or for the time being charged, in consultation with long-term customers;

(67) 'Reference Rate of Interest' means the one year marginal cost of funds based lending rate (MCLR) of the State Bank of India (SBI) issued from time to time plus 325 basis points;

(68) 'Revised Emission Standards' in respect of thermal generating station means the revised norms notified as per Environment (Protection) Amendment Rules, 2015 or any other Rules as may be notified from time to time;

(69) 'Run-of-River Generating Station' means a hydro generating station which does not have

upstream pondage;

(70) 'Run-of-River Generating Station with Pondage' means a hydro generating station with sufficient pondage for meeting the diurnal variation of power demand;

(71) 'Scheduled Commercial Operation Date' or 'SCOD' shall mean the date(s) of commercial operation of a generating station or generating unit thereof or transmission system or element thereof and associated communication system as indicated in the Investment Approval or as agreed in power purchase agreement or transmission service agreement as the case may be, whichever is earlier;

(72) 'Scheduled Energy' means the quantum of energy scheduled by the concerned Load Despatch Centre to be injected into the grid by a generating station for a given time period;

(73) 'Scheduled Generation' or 'Scheduled injection' for a time block or any period means the schedule of generation or injection in MW or MWh ex-bus, including the schedule for Ancillary Services given by the concerned Load Despatch Centre;

(74) 'Schedule Drawal' for a time block or any period means the schedule of drawal in MW or MWh ex-bus, including the schedule for Ancillary Services given by the concerned Load Despatch Centre;

(75) 'Sharing Regulations' means Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses in inter-State Transmission System) Regulations, 2020;

(76) 'Small Gas Turbine Generating Station' means and includes open cycle gas turbine or combined cycle generating station with gas turbines in the capacity range of 50 MW or below;

(77) 'Start Date or Zero Date' means the date indicated in the Investment Approval for commencement of implementation of the project, and where no such date has been indicated, the date of Investment Approval shall be deemed to be Start Date or Zero Date;

(78) 'Statutory Charges' means and includes taxes, cess, duties, royalties and other charges levied

through Acts of the Parliament or State Legislatures or by Indian Government Instrumentality under relevant statutes;

(79) 'Storage Type Generating Station' means a hydro generating station associated with storage capacity to enable variation of generation of electricity according to demand;

(80) 'Thermal Generating Station' means a generating station or a unit thereof that generates electricity using fossil fuels such as coal, lignite, gas, liquid fuel or a combination of these as its primary source of energy or co-firing of biomass with coal;

(81) 'Transmission Line' shall have the same meaning as defined in sub-section (72) of Section 2 of the Act;

(82) 'Transmission Service Agreement' means the agreement entered into between the transmission licensee and the Designated ISTS Customers in accordance with the Sharing Regulations and shall include the Bulk Power Transmission Agreement and Long Term Access Agreement;

(83) 'Transmission System' means a line or a group of lines with or without associated sub-station, equipment associated with transmission lines and sub-stations identified under the scheme as per the Investment Approval(s) and shall include associated communication system;

(84) 'Trial Operation' in relation to the transmission system shall have the same meaning as specified in Regulation 23 of Grid Code;

(85) 'Trial Run' in relation to the generating station shall have the same meaning as specified in Regulation 22 of Grid Code;

(86) 'Sub-Station' shall have the same meaning as defined in sub-section (69) of section 2 of the Act;

(87) 'Unloading Point' means the point within the premises of the coal or lignite based thermal generating station where the coal or lignite is unloaded from the rake or truck or any other mode of

transport;

(88) 'Useful Life' in relation to a unit of a generating station, integrated mines, transmission system and communication system from the date of commercial operation shall mean the following:

(a)	Coal/Lignite based thermal generating station	25 years
(b)	Gas/Liquid fuel based thermal generating station	25 years
(c)	AC and DC sub-station	25 years
(d)	Gas Insulated Substation (GIS)	25 years
(e)	Hydro generating station including pumped storage hydro generating stations	40 years
(f)	Transmission line (including HVAC & HVDC) & OPGW	35 years
(g)	Communication system excluding OPGW, IT and SCADA	7 years
(h)	Integrated mine(s)	As per the Mining Plan

Provided that in the case of coal/lignite based thermal generating stations and hydro generating stations, the Operational Life may be 35 years and 50 years, respectively.

(89) The words and expressions used in these regulations and not defined herein but defined in the Act or any other regulations of the Commission, shall have the meaning assigned to them under the Act or any other regulations of the Commission.

4. **Interpretations:** - In these regulations, unless the context otherwise requires:

- (1) 'Day' means a calendar day consisting of 24 hours period starting at 0000 hours;
- (2) 'kCal' means a unit of heat energy contents in mineral, measured in one kilo calories or one thousand calories of heat produced at any instantaneous period;
- (3) 'Kilowatt-Hour' or 'kWh' means a unit of electrical energy, measured in one kilowatt or

one thousand watts of power produced or consumed over a period of one hour;

- (4) 'Quarter' means the period of three months commencing on the first day of April, July, October and January of each financial year in case of an existing project, and in case of a new project, in respect of the first quarter, from the date of commercial operation to the last day of June, September, December or March, as the case may be;
- (5) 'Tonne' means a metric tonne of coal or lignite in respect of integrated mine(s);
- (6) 'Year' means a financial year beginning on 1st April and ending on 31st March:

Provided that the first year in case of a new project or integrated mine(s) shall commence from the date of commercial operation and end on the immediately following 31st March.

- (7) Reference to any Act, Rules, and Regulations shall include amendment or consolidation or re-enactment thereof.

CHAPTER – 2

DATE OF COMMERCIAL OPERATION

5. **Date of Commercial Operation:** (1) The date of commercial operation of a generating station or unit thereof or a transmission system or element thereof and associated communication system shall be determined in accordance with the provisions of the Grid Code.

(2) The date of commercial operation in case of integrated mine(s), shall mean the earliest of: -

- a) the first date of the year succeeding the year in which 25% of the Peak Rated Capacity as per the Mining Plan is achieved; or
- b) the first date of the year succeeding the year in which the value of production estimated in accordance with Regulation 7 of these regulations, exceeds total expenditure in that year; or
- c) the date of two years from the date of commencement of production:

Provided that on the earliest occurrence of any of the events under sub-clauses (a) to (c) of Clause (2) of this Regulation, the generating company shall declare the date of commercial operation of the integrated mine(s) under the relevant sub-clause with one week prior intimation to the beneficiaries of the end-use or associated generating station(s);

Provided further that in case the integrated mine(s) is ready for commercial operation but is prevented from declaration of the date of commercial operation for reasons not attributable to the generating company or its suppliers or contractors or the Mine Developer and Operator, the Commission, on an application made by the generating company, may approve such other date as the date of commercial operation as may be considered appropriate after considering the relevant reasons that prevented the declaration of the date of commercial operation under any of the sub-

clauses of Clause (2) of this Regulation;

Provided also that the generating company seeking the approval of the date of commercial operation under the preceding proviso shall give prior notice of one month to the beneficiaries of the end-use or associated generating station(s) of the integrated mine(s) regarding the date of commercial operation.

6. **Sale of Infirm Power:** Supply of infirm power shall be in accordance with the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2022:

Provided that any revenue earned by the generating company from the supply of infirm power after accounting for the fuel expenses shall be applied in adjusting the capital cost accordingly.

7. **Supply of Coal or Lignite prior to the Date of Commercial Operation of Integrated Mine:** The input price for the supply of coal or lignite from the integrated mine(s) prior to their date of commercial operation shall be:

- (a) in the case of coal, the estimated price available in the investment approval, or the notified price of Coal India Limited for the corresponding grade of coal supplied to the power sector, whichever is lower; and
- (b) in the case of lignite, the estimated price available in the investment approval or the last available pooled lignite price as determined by the Commission for the transfer price of lignite, whichever is lower:

Provided that any revenue earned from the supply of coal or lignite prior to the date of commercial operation of the integrated mine(s) shall be applied in adjusting the capital cost of the said integrated mine(s).

CHAPTER-3

PROCEDURE FOR TARIFF DETERMINATION**8. Tariff determination**

(1) Tariff in respect of a generating station and emission control system, wherever applicable, may be determined for the whole of the generating station or unit thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or element thereof or associated communication system:

Provided that:

- (i) In case of commercial operation of all the units of a generating station or all elements of a transmission system prior to 1.4.2024, the generating company or the transmission licensee, as the case may be, shall file a consolidated petition in respect of the entire generating station or transmission system for the purpose of determination of tariff for the period from 1.4.2024 to 31.3.2029:
 - (ii) Tariff of the associated communication system forming part of the transmission system which has achieved commercial operation prior to 1.4.2014 shall be as per the methodology approved by the Commission prior to 1.4.2014.
 - (iii) The generating company shall file an application for determination of supplementary tariff for the emission control system installed in a coal or lignite based thermal generating station in accordance with these regulations not later than 90 days from the date of operation of such emission control system.
- (2) Where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through a long term power purchase agreement, the units for such part capacity shall be clearly identified and, in such cases, the tariff shall be determined for such identified

capacity. Where the unit(s) corresponding to such part capacity cannot be identified, the tariff of the generating station may be determined with reference to the capital cost of the entire project, but the tariff so determined shall be applicable corresponding to the part capacity contracted for supply to the beneficiaries.

(3) In case of expansion of the existing generating station, the tariff shall be determined for the expanded capacity in accordance with these regulations:

Provided that the common infrastructure of the existing generating station, shall be utilized for the expanded capacity and the benefit of new technology in the expanded capacity, as determined by the Commission, shall be extended to the existing capacity.

(4) Assets installed for implementation of the revised emission standards shall form part of the existing generation project, and the tariff thereof shall be determined separately in accordance with the application filed under the 5th proviso to Clause (1) of Regulation 9 of these Regulations.

(5) Energy charge component of the tariff of the generating station getting coal or lignite from the integrated mine shall be determined based on the input price of coal or lignite, as the case may be, from such integrated mines:

Provided that the generating company shall maintain the account of the integrated mine separately and submit the cost of the integrated mine, in accordance with these regulations, duly certified by the Auditor.

(6) Tariff of generating station using coal washery rejects developed by Central or State PSUs or Joint Venture between a Government Company and a company other than a Government Company shall be determined in accordance with these regulations:

Provided that in case of a Joint Venture between a Government Company and a Company

other than the Government Company, the shareholding of the company other than the Government Company either directly or through any of its subsidiary companies or associate companies shall not exceed 26% of the paid up share capital:

Provided further that the energy charge component of the tariff of such generating station or unit thereof shall be determined based on the fixed cost and the variable cost of the coal washery project:

Provided also that the Gross Calorific Value of coal rejects shall be measured jointly by the generating company and the beneficiaries.

(7) In the case of multi-purpose hydro schemes, with irrigation, flood control and power components, the capital cost chargeable to the power component of the scheme only shall be considered for the determination of tariff.

(8) If an existing transmission project is granted a licence under section 14 of the Act, read with clause (c) of Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of grant of Transmission Licence for Inter-State Transmission of electricity and related matters) Regulations, 2009, the tariff of such project shall be applicable from the date of grant of transmission licence or from the date as indicated in the transmission licence, as the case may be. In such cases, the applicant shall file a petition as per Annexure-I (Part III) to these regulations, clearly demarcating the assets which form part of the business of generation and transmission, the value of such assets, source of funding and other relevant details after adjusting the cumulative depreciation and loan repayment, duly certified by the Auditor.

9. **Application for determination of tariff**

(1) The generating company or the transmission licensee may make an application for determination of tariff for a new generating station or unit thereof or transmission system or element

thereof in accordance with these Regulations within 90 days from the actual date of commercial operation:

Provided that where the transmission system comprises various elements, the transmission licensee shall file an application for determination of tariff for a group of elements on incurring of expenditure of not less than Rs. 100 Crore or 100% of the cost envisaged in the Investment Approval, whichever is lower, as on the actual date of commercial operation:

Provided further that transmission licensees shall combine all the elements of the transmission system in the Investment Approval, which are attaining commissioning during a particular month and declare a single COD for the combined Asset, which shall be the date of the COD of the last element commissioned in that month and such Asset shall be treated as single Asset for tariff purposes.

Provided further that the generating company or the transmission licensee, as the case may be, shall submit an Auditor Certificate and, in case of non-availability of an Auditor Certificate, a Management Certificate duly signed by an authorised person, not below the level of Director of the company, indicating the capital cost incurred as on the date of commercial operation and the projected additional capital expenditure for respective years of the tariff period 2024-29:

Provided that for a new generating station or unit thereof or transmission system or element thereof, the applicant, through a specific prayer in its application filed under Regulation 9(1) of these regulations, may plead for an interim tariff, and the Commission shall consider granting interim tariff from the date of commercial operation during the first hearing of the application.

Provided also that the generating company shall file an application for determination of supplementary tariff for the emission control system installed in coal or lignite based thermal generating station in accordance with these regulations not later than 90 days from the date of start

of operation of such emission control system.

(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2024, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2024 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2024-29 along with the true up petition for the period 2019-24 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019.

(3) In case an emission control system is required to be installed in the existing generating station or unit thereof to meet the revised emission standards, an application shall be made for the determination of supplementary tariff (capacity charges or energy charge or both) based on the actual capital expenditure duly certified by the Auditor.

(4) Where the generating company has the arrangement for the supply of coal or lignite from an integrated mine(s) to one or more of its generating stations, the generating company shall file a petition for determination of the input price for determining the energy charge along with the tariff petitions for one or more generating stations in accordance with the provision of Chapter 9 of these regulations:

Provided that a generating company with integrated mine(s) shall file a petition for determination of the input price of coal or lignite from the integrated mine(s) not later than 90 days from the date of actual commercial operation of the integrated mine(s) in accordance with these regulations.

(5) In case the generating company or the transmission licensee files the application as per the timeline specified in sub-clause (1) to (4) of this Regulation, carrying cost shall be allowed from the

date of commercial operation of the project:

Provided that in case the generating company or the transmission licensee delays in filing of application as per the timeline specified in sub-clause (1) to (4) of this Regulation, carrying cost shall be allowed to the generating company or the transmission licensee from the date of filing of the application as per Regulation 10(7) and 10(8) of these regulations.

10. **Determination of tariff**

(1) The generating company for a specific generating station or for an integrated mine or the transmission licensee, as the case may be, shall file a petition before the Commission as per **Annexure-I** to these regulations containing the details of underlying assumptions for the capital expenditure and additional capital expenditure incurred and projected to be incurred, wherever applicable.

(2) If the petition is deficient in any respect as required under **Annexure-I** to these regulations, the application shall be returned to the generating company or transmission licensee, as the case may be, for resubmission of the petition within one month of the date of return of the application after rectifying the deficiencies as may be pointed out by the staff of the Commission.

(3) If the information furnished in the petition is in accordance with these regulations, the Commission may consider granting interim tariff of up to ninety per cent (90%) of the tariff claimed in case of new generating station or unit thereof or transmission system or element thereof during the first hearing of the application:

Provided that in case the final tariff determined by the Commission is lower than the interim tariff by more than 10%, the generating company or transmission licensee shall return the excess amount recovered from the beneficiaries or long term customers, as the case may be with simple interest at 1.20 times of the rate worked out on the basis of 1 year SBI MCLR plus 100 basis points prevailing

as on 1st April of the financial year in which such excess recovery was made

(4) In case of the existing projects, the generating company or the transmission licensee, as the case may be, shall continue to bill the beneficiaries or the long term customers at the capacity charges or the transmission charges respectively as approved by the Commission and applicable as on 31.3.2024 for the period starting from 1.4.2024 till approval of final capacity charges or transmission charges by the Commission in accordance with these regulations:

Provided that the billing for energy charges w.e.f. 1.4.2024 shall be as per the operational norms specified in these regulations.

(5) The Commission shall grant the final tariff in case of existing and new projects after considering the replies received from the respondents and suggestions and objections, if any, received from the general public and any other person permitted by the Commission, including the consumers or consumer associations.

(6) The Commission may hear the petitioner, the respondents and any other person permitted, including the consumers or recognised consumer associations while granting interim or final tariff.

(7) Subject to Sub-Clause (8) below, the difference between the tariff determined in accordance with clauses (3) and (5) above and clauses (4) and (5) above, shall be recovered from or refunded to, the beneficiaries or the long term customers, as the case may be, with simple interest at the rate equal to the 1 year SBI MCLR plus 100 basis points prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments.

Provided that the bills to recover or refund shall be raised by the generating company or the transmission licensees within 30 days from the issuance of the Order.

Provided further that such interest, including that determined as per sub-clause (8) of this regulation

shall be payable till the date of issuance of the Order and no interest shall be allowed or levied during the period of six-monthly instalments.

Provided further that in case where money is to be refunded and there is a delay in the raising of bills by the generating company or transmission licensees beyond 30 days from the issuance of the Order, it shall attract a late payment surcharge as applicable in accordance with these regulations.

(8) Where the capital cost approved by the Commission on the basis of projected additional capital expenditure exceeds the actual trued up additional capital expenditure incurred on a year to year basis by more than 10%, the generating company or the transmission licensee shall refund to the beneficiaries or the long term customers as the case may be, the tariff recovered corresponding to the additional capital expenditure not incurred, as approved by the Commission, along with simple interest at 1.20 times of the rate worked out on the basis of 1 year SBI MCLR plus 100 basis points as prevalent on 1st April of the respective year.

11. **In-principle approval in specific circumstances:** The generating company for a specific generating station or for an integrated mine or the transmission licensee undertaking any additional capitalization on account of change in law events or force majeure conditions may file petition for in-principle approval for incurring such expenditure after prior notice to the beneficiaries or the long term customers, as the case may be, along with underlying assumptions, estimates and justification for such expenditure if the estimated expenditure exceeds 10% of the admitted capital cost of the project or Rs.100 Crore, whichever is lower.

12. **Truing up of tariff for the period 2019-24:** The tariff of the generating stations, integrated mines and transmission systems for the period 2019-24 shall be trued up in accordance with the provisions of Regulation 13 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 along with the tariff petition for the period 2024-29. The capital cost

admitted as on 31.3.2024 based on the truing up shall form the basis of the opening capital cost as on 1.4.2024 for the tariff determination for the period 2024-29.

13. **Truing up of tariff for the period 2024-29:** (1) The Commission shall carry out the truing up exercise for the period 2024-29, along with the tariff petition filed for the next tariff period, for the following:

- a) the capital expenditure, including additional capital expenditure incurred up to 31.03.2029 as admitted by the Commission after prudence checks at the time of truing up:
- b) the capital expenditure, including additional capital expenditure incurred up to 31.03.2029 on account of Force Majeure and Change in Law as admitted by the Commission.

(2) The input price of coal or lignite from the integrated mine(s) of the generating station(s) for the tariff period 2024-29 shall be trued up for:

- a) The capital expenditure, including additional capital expenditure incurred up to 31.03.2029 as admitted by the Commission after prudence check at the time of truing up;
- b) the capital expenditure, including additional capital expenditure incurred up to 31.03.2029 on account of Force Majeure and Change in Law, as admitted by the Commission.
- c) The Operation and Maintenance expenses in accordance with provisions of Regulation 46.

(3) The generating company for a specific generating station or for an integrated mine, or the transmission licensee, as the case may be, shall make an application, as per Annexure -I to these regulations, for carrying out truing up exercise in respect of the generating station or a unit thereof or the transmission system or an element thereof by 30.11.2029.

(4) The generating company for a specific generating station or for an integrated mine, or the transmission licensee, as the case may be, may make an application for interim truing up of tariff in

the year 2026-27 if the annual fixed cost increases by more than 20% over the annual fixed cost as determined by the Commission for the respective years of the tariff period:

Provided that if the actual additional capital expenditure falls short of the projected additional capital expenditure allowed under provisions of Chapter 7 of these regulations, the generating company or the transmission licensee, as the case may be, shall not be required to file any interim true up petition for this purpose and shall refund to the beneficiaries or the long term customers, as the case may be, the excess tariff recovered corresponding to the projected additional capital expenditure not incurred, in accordance with Regulation 10(7) and 10(8) of these regulations, as the case may be under intimation to the Commission:

Provided further that the generating company or the transmission licensee shall submit the complete details along with the calculations of the refunds made to the beneficiaries or the long term customers, as the case may be, at the time of true up.

(5) After truing up, if the tariff or the input price already recovered exceeds or falls short of the tariff or the input price approved by the Commission under these regulations, the generating company or the transmission licensee, shall refund to or recover from, the beneficiaries or the long term customers, as the case may be, the excess or the shortfall amount, in accordance with Regulation 10(7) and 10(8) of these regulations as may be applicable.

Provided that the generating company shall refund such excess amount or recover the shortfall amount from the beneficiaries based on scheduled energy.

CHAPTER- 4

TARIFF STRUCTURE

14. **Components of Tariff:** (1) The tariff for the supply of electricity from a thermal generating station shall comprise two parts, namely, capacity charge (for recovery of annual fixed cost consisting of the components as specified in Regulation 15 of these regulations) and energy charge (for recovery of primary and secondary fuel cost and cost of limestone and any other reagent, where applicable as specified in Regulation 16 of these regulations).

(2) The Supplementary tariff consisting of supplementary capacity charges and supplementary energy charges, on account of the implementation of revised emission standards in existing generating stations or new generating stations, as the case may be, shall be determined by the Commission separately.

(3) The capacity charge and energy charge of a generating station shall be determined in accordance with the provisions of Chapter 11 of these regulations. The input price of coal or lignite from the integrated mine, as determined in accordance with the provisions of Chapter 9 of these regulations, shall form part of the energy charge of the generating station.

(4) The tariff for the supply of electricity from a hydro generating station shall comprise capacity charge and energy charge to be derived in the manner specified in Regulation 65 or 66 of these regulations, as may be applicable, for recovery of annual fixed cost consisting of the components referred to in Regulation 15 of these regulations.

(5) The tariff for transmission of electricity on inter-State transmission system shall comprise transmission charges for recovery of annual fixed cost consisting of the components specified in Regulation 15 of these regulations.

15. **Capacity Charges:** (1) The capacity charges shall be derived on the basis of annual fixed costs. The Annual Fixed Cost (AFC) of a generating station or a transmission system, including a communication system, shall consist of the following components:

- (a) Return on equity;
- (b) Interest on loan capital;
- (c) Depreciation;
- (d) Interest on working capital; and
- (e) Operation and maintenance expenses:

Provided that Special Allowance in lieu of R&M, where opted in accordance with Regulation 28 of these regulations, shall be recovered separately and shall not be considered for computation of working capital.

(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 in Sub-clauses (a) to (e) of Clause (1) of this Regulation.

16. **Energy Charges:** Energy charges shall be derived on the basis of the landed fuel cost (LFC) of a generating station (excluding hydro) and shall consist of the following costs:

- (a) Landed Fuel Cost of primary fuel;
- (b) Cost of secondary fuel oil consumption; and
- (c) Cost of limestone or any other reagent, as applicable:

Provided that any refund of taxes and duties along with any amount received on account of

penalties from the fuel supplier shall be adjusted in fuel cost:

Provided further that the supplementary energy charges, if any, on account of meeting the revised emission standards in case of a thermal generating station shall be determined separately by the Commission as per Regulation 64 of these regulations.

Provided also that in case of supply of coal or lignite from the integrated mine(s), the landed cost of primary fuel shall be based on the input price of coal or lignite, as the case may be, as computed in accordance with these regulations.

17. **Special Provisions for Tariff for Thermal Generating Station which have Completed 25 Years of Operation from Date of Commercial Operation:** In respect of a thermal generating station that has completed 25 years of operation from the date of commercial operation, the generating company and the beneficiary may agree on an arrangement, including provisions for target availability and incentive, where in addition to the energy charge, capacity charges determined under these regulations shall also be recovered based on scheduled generation.

CHAPTER – 5

CAPITAL STRUCTURE

18. **Debt-Equity Ratio:** (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

Explanation-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding the infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In the case of the generating station and the transmission system, including the communication system declared under commercial operation prior to 1.4.2024, the debt-equity ratio allowed by the Commission for the determination of tariff for the period ending 31.3.2024 shall be considered:

Provided that in the case of a generating station or a transmission system, including a communication system which has completed its useful life as on 1.4.2024 or completing its useful life during the 2024-29 tariff period, if the equity actually deployed as on 1.4.2024 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 96 of these regulations.

(4) In the case of the generating station and the transmission system, including communication system declared under commercial operation prior to 1.4.2024, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2024, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2024 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.

(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.

CHAPTER-6

COMPUTATION OF CAPITAL COST

19. **Capital Cost:** (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence checks in accordance with these regulations shall form the basis for the determination of tariff for existing and new projects.

(2) The Capital Cost of a new project shall include the following:

- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed on pari-passu basis, by treating the excess equity over and above 30% of the funds deployed as normative loan, or (ii) being equal to the actual amount of loan in the event of actual equity being less than 30% of the funds deployed;
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;
- (g) Adjustment of revenue due to the sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 6 of these regulations;

- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;
 - (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
 - (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
 - (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
 - (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
 - (m) Expenditure on account of the fulfilment of any conditions for obtaining environment clearance for the project;
 - (n) Expenditure on account of change in law and force majeure events; and
 - (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under the Perform, Achieve and Trade (PAT) scheme of the Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.
 - (p) Expenditure required to enable flexible operation of the generating station at lower loads.
- (3) The Capital cost of an existing project shall include the following:
- (a) Capital cost admitted by the Commission prior to 1.4.2024 duly trued up by excluding liability, if any, as on 1.4.2024;

- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
 - (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
 - (d) Capital expenditure on account of ash disposal and utilization, including handling and transportation facility;
 - (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
 - (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under the Perform, Achieve and Trade (PAT) scheme of the Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries;
 - (g) Expenditure required to enable flexible operation of the generating station at lower loads;
and
 - (h) Capital expenditure on account of biomass handling equipment and facilities, for co-firing.
- (4) The capital cost in case of existing or new hydro generating stations shall also include:
- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
 - (b) cost of the developer's 10% contribution towards the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in

the affected area.

- (c) Expenditure incurred towards developing local infrastructure not exceeding Rs. 10 lakh/MW in the vicinity of the power plant approved in original scheme if funding is not provided for under “Budgetary Support for Flood Moderation and for Budgetary support for enabling infrastructure”.

Provided that such funds shall be allowed only if the funds are spent through Indian Governmental Instrumentality;

- (5) For Projects acquired through NCLT proceedings, the following shall be considered while approving Capital Cost for determination of tariff:

- (a) For projects already under operation, historical GFA of the project acquired or the acquisition value paid by the generating company, whichever is lower;
- (b) For considering the historical GFA for the purpose of Sub-Clause (a) above, the same shall be the capital cost approved by the appropriate commission till the date of acquisition;

Provided that in the absence of any prior approved cost of an Appropriate Commission, the Commission shall consider the same on the basis of audited accounts subject to prudence check;

Provided further, that in case additional capital expenditure is required post acquisition of an already operational project, the same shall be considered under the provisions of Chapter 7 of these Regulations;

- (c) In case any under construction project is acquired which is yet to achieve commercial operation, the acquisition value or the actual audited cost incurred till the date of

acquisition, whichever is lower, shall be considered. and;

- (d) any additional capital expenditure incurred post acquisition of such project up to the date of commercial operation of the project in line with the investment approval of the Board of Directors of the generating company or the transmission licensees shall also be considered on a case to case basis subject to prudence check.

Provided that post commercial operation, any additional capital expenditure shall be allowed under the provisions of Chapter 7 of these Regulations.

- (6) The following shall be excluded from the capital cost of the existing and new projects:
 - (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
 - (b) De-capitalised Assets after the date of commercial operation on account of obsolescence;
 - (c) De-capitalised Assets on account of upgradation or shifting from one project to another project:

Provided that in case such an asset is recommended for further utilisation by the Regional Power Committee in consultation with CTU, such asset shall be de-capitalised from the original project only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of a permanent nature, there shall be no de-capitalization of the concerned assets.

- (d) In the case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (e) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and

- (f) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.

20. **Prudence Check of Capital Cost:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

- (1) In case of the thermal generating station and the transmission system, prudence check of capital cost shall include scrutiny of the capital expenditure, in the light of capital cost of similar projects based on past historical data, wherever available, reasonableness of financing plan, interest during construction, incidental expenditure during construction, use of efficient technology, cost over-run and time over-run, procurement of equipment and materials through competitive bidding as given in Regulation 100 below and such other matters as may be considered appropriate by the Commission:

Provided that, while carrying out the prudence check, the Commission shall also examine whether the generating company or transmission licensee, as the case may be, has been careful in its judgments and decisions in the execution of the project.

- (2) The Commission may, for the purpose of vetting of capital cost of hydro generating stations, appoint an independent agency or an expert body:

Provided that the Designated Independent Agency already appointed under the guidelines issued by the Commission under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 shall continue till completion of the assigned project.

- (3) Where the power purchase agreement entered into between the generating company and the beneficiaries provides for the ceiling of actual capital expenditure, the Commission shall take into consideration such ceiling for prudence check.

(4) The generating company or the transmission licensee, as the case may be, shall furnish the capital cost for the execution of the existing and new projects as per Annexure-I to these regulations along with tariff petition for the purpose of creating a database of benchmark capital cost of various components.

21. Interest During Construction (IDC) and Incidental Expenditure during Construction (IEDC)

(1) Interest during construction (IDC) shall be computed considering the actual loan and normative loan after taking into account the prudent phasing of funds up to actual COD:

Provided that IDC on normative loan corresponding to excess equity over 30% of funds deployed shall be allowed only in case the actual infusion of equity on a quarterly basis is more than 30% of total funds deployed on a pari-passu basis.

Provided further that in case IDC on normative loan is to be allowed prior to infusion of actual loan, rate of interest for computing such IDC shall be equal to 1-year SBI MCLR as prevailing on 1st April of the respective year.

Provided further that IDC on normative loan, post infusion of actual loan shall be computed based on WAROI for that respective quarter.

(2) Incidental expenditure during construction (IEDC) shall be computed from the zero date, taking into account pre-operative expenses up to actual COD:

Provided that any revenue earned during the construction period up to actual COD on account of interest on deposits or advances or any other receipts shall be taken into account for reduction in incidental expenditure during construction.

(3) In case of additional costs on account of IDC and IEDC due to delay in achieving the COD, the

generating company for a specific generating station or for an integrated mine or the transmission licensee, as the case may be, shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds in case of IDC and details of IEDC during the period of delay and liquidated damages recovered or recoverable corresponding to the delay.

(4) If the delay in achieving the COD is not attributable to the generating company or the transmission licensee, such additional IDC and IEDC may be allowed after prudence check and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be adjusted in the capital cost of the generating station or the transmission system, as the case may be.

(5) If the delay in achieving the COD is attributable either in entirety or in part to the generating company or the transmission licensee or its contractor or supplier or agency, in such cases, IDC and IEDC due to such delay may be disallowed after prudence check either in entirety or on pro-rata basis corresponding to the period of delay not condoned vis-à-vis total implementation period and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be retained by the generating company or the transmission licensee, in the same proportion of delay not condoned vis-à-vis total implementation period.

[Note: For e.g.: In case a project was scheduled to be completed in 48 months and is actually completed in 60 months. Out of 12 months of time overrun, if only 6 months of time overrun is condoned, the allowable IDC and IEDC shall be computed by considering the total IDC and IEDC incurred for 60 months and allowed in the proportion of 54 months over 60 month period.]

Provided that in case of activities like obtaining forest clearance, NHAI Clearance, approval of Railways, and acquisition of government land, where delay is on account of delay in approval of

concerned authority, in such cases maximum condonation shall be allowed up to 90% of the delay associated with obtaining such approvals or clearances.

(6) For the purpose of Clauses (4) and (5) of this Regulation, IDC on actual loan and normative loan shall be considered in accordance with the normative debt-equity ratio specified under clause (1) of Regulation 18 of these regulations.

22. **Controllable and Uncontrollable factors:** The following shall be considered as controllable and uncontrollable factors for deciding time overrun, cost escalation, IDC and IEDC of the new projects:

(1) The "controllable factors" shall include but shall not be limited to the following:

- a. Efficiency in the implementation of the new projects not involving an approved change in scope of such new projects, change in statutory levies or change in law or force majeure events; and
- b. Delay in execution of the new projects on account of contractor or supplier or agency of the generating company or transmission licensee.

(2) The "uncontrollable factors" shall include but shall not be limited to the following:

- a. Force Majeure events;
- b. Change in Law; and
- c. Land acquisition-except where the delay is attributable to the generating company or the transmission licensee.

23. **Initial Spares:** Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to the following ceiling norms:

(a)	Coal-based/lignite-fired thermal generating stations -	-	4.0%
(b)	Gas Turbine/ Combined Cycle thermal generating- Stations		4.0%
(c)	Hydro generating stations including pumped storage - hydro generating station		4.0%
(d)	Transmission system		
(i)	Transmission line including UG Cable	-	1.00%
(ii)	Transmission Sub-station		
	-Green Field	-	4.00%
	-Brown Field	-	6.00%
(iii)	Series Compensation devices and HVDC Stati	-	4.00%
(iv)	Gas Insulated Sub-station (GIS)	-	6.00%
	-Green Field	-	5.00%
	-Brown Field	-	7.00%
(v)	Communication system	-	3.50%
(vi)	Static Synchronous Compensator	-	6.00%

Provided that:

- i. Plant and Machinery cost shall be considered as the original project cost excluding IDC, IEDC, Land Cost and Cost of Civil Works. The generating company and the transmission licensee, for the purpose of estimating Plant and Machinery Costs, shall submit the break-up of head-wise IDC and IEDC in its tariff application;
- ii. where the generating station has any transmission equipment forming part of the generation project, the ceiling norms for initial spares for such equipment shall be as per the ceiling norms specified for the transmission system under these regulations.
- iii. where the emission control system is installed, the norms of initial spares specified in this

Regulation for coal or lignite based thermal generating stations, as the case may be, shall apply.

CHAPTER – 7

COMPUTATION OF ADDITIONAL CAPITAL EXPENDITURE

24. Additional Capitalisation within the original scope and up to the cut-off date

(1) The additional capital expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (a) Payment made towards admitted liabilities for works executed up to the cut-off date;
- (b) Works deferred for execution;
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;
- (d) Payment against the award of arbitration or for compliance with the directions or order of any statutory authority or order or decree of any court of law;
- (e) Change in law or compliance with any existing law which is not provided for in the original scope of work;
- (f) In the case of the hydro generating station, expenditure incurred towards developing local infrastructure in the vicinity of the power plant not exceeding Rs. 10 lakh/MW if funding is not provided for under “Budgetary Support for Flood Moderation and for Budgetary support for enabling infrastructure”;

Provided that such funds shall be allowed only if the funds are spent through Indian Governmental Instrumentality; and

- (g) Force Majeure events.

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

- (2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.

25. Additional Capitalisation within the original scope and after the cut-off date:

- (1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:

- (a) Payment made against award of arbitration or for compliance with the directions or order of any statutory authority, or order or decree of any court of law;
- (b) Change in law or compliance with any existing law which is not provided for in the original scope of work;
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;
- (d) Payment made towards liability admitted for works within the original scope executed prior to the cut-off date;
- (e) Force Majeure events;
- (f) Works within original scope executed after the cut-off date and admitted by the Commission, to the extent of actual payments made; and

(2) In case of replacement of assets deployed under the original scope of the existing project after the cut-off date, the additional capitalization may be admitted by the Commission after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

- (a) Assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;
- (b) The replacement of the asset or equipment is necessary on account of a change in law or Force Majeure conditions;
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

Provided that any claim of additional capitalisation with respect to the replacement of assets under the original scope and on account of obsolescence of technology, less than Rs. 20 lakhs shall not be considered as part of Capital cost and shall be met by Generating company and Transmission licensee through normative O&M charges only.

26. Additional Capitalisation beyond the original scope

(1) The capital expenditure, in respect of the existing generating station or the transmission system, including the communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:

- (a) Payment made against award of arbitration or for compliance of order or directions of any

statutory authority, or order or decree of any court of law;

- (b) Change in law or compliance of any existing law;
- (c) Force Majeure events;
- (d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;
- (e) Deferred works relating to ash pond or ash handling system in addition to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

- (f) Usage of water from the sewage treatment plant in the thermal generating station.
- (g) Works required towards biomass handling system to enable biomass co-firing and towards enabling flexible operation of the generating station as may be required.
- (h) Works pertaining to Railway Infrastructure and its augmentation for transportation of coal up to the receiving end of the generating station (excluding any transportation cost and any other appurtenant cost paid to railways) that are not covered under Regulation 24, 25 and 27, but shall result in better fuel management and can lead to a reduction in operation costs, or shall have other tangible benefits:

Provided that the generating company shall have to mandatorily seek prior approval of the Commission before implementing such works based on a detailed cost-benefit analysis of such schemes; and

- (i) Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be, including the works required towards projects acquired through NCLT process. The claim shall be substantiated with the technical justification and cost benefit analysis.
- (2) Any claim of additional capitalisation less than Rs. 20 lakhs shall not be considered under Clause (1) of this regulation.
- (3) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised.

Provided that in cases where an asset forming part of a scheme is de-capitalised and wherein the historical value of such asset is not available, the value of de-capitalisation shall be computed by de-escalating the value of the new asset by 5% per year until the year of capitalisation of the old asset subject to a minimum of 10% of the replacement cost of the asset.

27. Additional Capitalisation on account of Renovation and Modernisation

- (1) The generating company intending to undertake renovation and modernization (R&M) of the generating station or unit thereof for the purpose of extension of life beyond the originally recognised useful life for the purpose of tariff, shall file a petition before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange

component, if any, and any other information considered to be relevant by the generating company or the transmission licensee:

Provided that the generating company making the applications for renovation and modernization (R&M) shall not be eligible for Special Allowance under Regulation 28 of these regulations;

Provided further that the generating company intending to undertake renovation and modernization (R&M) shall seek the consent of the beneficiaries or the long term customers, as the case may be, for such renovation and modernization (R&M) and submit the response of the beneficiaries along with the application.

(2) Where the generating company, as the case may be, makes an application for approval of its proposal for renovation and modernisation (R&M), approval may be granted after due consideration of the reasonableness of the proposed cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, expected duration of life extension, the response of the beneficiaries or long term customers,-and such other factors as may be considered relevant by the Commission.

(3) In the case of gas/ liquid fuel based open/ combined cycle thermal generating station after 25 years of operation from the date of commercial operation, any additional capital expenditure which has become necessary for the renovation of gas turbines/ steam turbines or additional capital expenditure necessary due to obsolescence or non-availability of spares for efficient operation of the stations may be allowed subject to prudence check:

Provided that any expenditure included in the renovation and modernisation (R&M) on consumables and cost of components and spares, which is generally covered in the O&M expenses during the major overhaul of gas turbines shall be suitably deducted from the expenditure to be

allowed after prudence check.

(4) After completion of the renovation and modernisation (R&M), the generating company, as the case may be, shall file a petition for determination of tariff. Expenditure incurred or projected to be incurred and admitted by the Commission after prudence check and after deducting the accumulated depreciation already recovered from the admitted project cost shall form the basis for the determination of tariff.

28. Special Allowance for Coal-based/Lignite fired Thermal Generating station

(1) In the case of coal-based/ lignite fired thermal generating stations, the generating company, instead of availing renovation and modernization (R&M), may opt to avail of a 'special allowance' in accordance with the norms specified in this Regulation, as compensation for meeting the requirement of expenses towards any additional capital expenditure covered in Regulation 24, 25, 26 and 27 except for capital expenditure arising out of change in law, award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law, and force majeure after completion of 25 years from the date of Commercial operation of the generating station or a unit thereof and in such an event, an upward revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the Special Allowance shall be included in the annual fixed cost:

Provided that such option shall not be available for a generating station or unit thereof for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before the commencement of these regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms;

Provided further that special allowance shall also be available for a generating station which has availed the Special Allowance during the tariff period 2009-14 or 2014-19 or 2019-24 as

applicable from the date of completion of the useful life.

(2) The Special Allowance admissible to a generating station shall be @ Rs 10.75 lakh per MW per year for the control period.

(3) In the event of a generating station availing of Special Allowance, the expenditure incurred upon or utilized from Special Allowance shall be maintained separately by the generating station, and details of the same shall be made available to the Commission as and when directed.

(4) The Special Allowance allowed under this Regulation shall be transferred to a separate fund for utilization towards Renovation & Modernisation and additional capitalisation.

29. **Additional Capitalization on account of Revised Emission Standards:** (1) A generating company requiring to incur additional capital expenditure in the existing generating station for compliance with the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.

(2) The proposal under clause (1) above shall contain details of the proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the generating company.

(3) Where the generating company makes an application for approval of additional capital expenditure on account of the implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the reasonableness of the cost and impact on operational parameters shall form the basis of the determination of tariff.

(5) Un-discharged liability, if any, on account of the emission control system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check.

CHAPTER-8

COMPUTATION OF ANNUAL FIXED COST

30. **Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity for existing project shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-river hydro generating station and at the base rate of 16.50% for storage type hydro generating stations, pumped storage hydro generating stations and run-of-river generating station with pondage;

(3) Return on equity for new project achieving COD on or after 01.04.2024 shall be computed at the base rate of 15.00% for the transmission system, including the communication system, at the base rate of 15.50% for Thermal Generating Station and run-of-river hydro generating station and at the base rate of 17.00% for storage type hydro generating stations, pumped storage hydro generating stations and run-of-river generating station with pondage;

Provided that return on equity in respect of additional capitalization beyond the original scope, including additional capitalization on account of the emission control system, Change in Law, and Force Majeure shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India plus 350 basis points as on 1st April of the year, subject to a ceiling of 14%;

Provided further that:

- i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission if the generating station or transmission

system is found to be declared under commercial operation without commissioning of any of the Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

- ii. in case of an existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, the rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;
- iii. in the case of a thermal generating station:
 - a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate as specified under Regulation 45(9) of IEGC Regulations, 2023.
 - b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate specified under Regulation 45(9) of IEGC Regulations, 2023, subject to the ceiling of additional rate of return on equity of 1.00%:

31. **Tax on Return on Equity.** (1) The rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. The effective tax rate shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the concerned generating company or the transmission licensee by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon.

Provided that in case a generating company or transmission licensee is paying

Minimum Alternate Tax (MAT) under Section 115JB of the Income Tax Act, 1961, the effective tax rate shall be the MAT rate, including surcharge and cess;

Provided further that in case a generating company or transmission licensee has opted for Section 115BAA, the effective tax rate shall be tax rate including surcharge and cess as specified under Section 115BAA of the Income Tax Act, 1961.

(2) The rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

(3) The generating company or the transmission licensee, as the case may be, shall true up the effective tax rate for every financial year based on actual tax paid together with any additional tax demand, including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2024-29 on actual gross income of any financial year. Further, any penalty arising on account of delay in deposit or short deposit of tax amount shall not be considered while computing the actual tax paid for the generating company or the transmission licensee, as the case may be.

Provided that in case a generating company or transmission licensee is paying Minimum Alternate Tax (MAT) under Section 115JB, the generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year with the applicable MAT rate including surcharge and cess.

Provided that in case a generating company or transmission licensee is paying tax under Section 115BAA, the generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year with the tax rate including surcharge and cess as specified under Section 115BAA.

Provided that any under-recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on a year to year basis.

32. **Interest on loan capital:** (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered gross normative loans for the calculation of interest on loans.

(2) The normative loan outstanding as on 1.4.2024 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2024 from the gross normative loan.

(3) The repayment for each of the years of the tariff period 2024-29 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis, and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed of by the generating company or the transmission licensee, as the case may be, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) For the Existing Project(s), the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio or allocated loan portfolio;

Provided that if there is no actual loan outstanding for a particular year but the normative loan is still outstanding, the last available weighted average rate of interest of the loan portfolio for the project shall be considered;

Provided further that if the generating station or the transmission system, as the case may be, does not have any actual loan, then the weighted average rate of interest of the loan portfolio of the generating company or the transmission licensee as a whole shall be considered.

Provided that the rate of interest on the loan for the installation of the emission control system shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.

(6) In the case of New Project(s), the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio of the generating company or the transmission licensee, as the case may be;

Provided further that if the generating station or the transmission system, as the case may be, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on April 01, of the relevant financial year.

Provided that the rate of interest on the loan for installation of the emission control system shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered subject to a ceiling of 14%.

(7) The interest on the loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

33. **Depreciation:** (1) Depreciation shall be computed from the date of commercial operation of

a generating station or unit thereof or a transmission system or element thereof including communication system. In the case of the tariff of all the units of a generating station or all elements of a transmission system including the communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

Provided that the effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which a single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, the weighted average life for the generating station or the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In the case of commercial operation of the asset for a part of the year, depreciation shall be charged on a pro rata basis.

(3) The salvage value of the asset shall be considered as 10%, and depreciation shall be allowed up to the maximum of 90% of the capital cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in the case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for the development of the generating station:

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of the sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system, as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(4) Land other than the land held under lease and the land for a reservoir in case of a hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing the depreciable value of the asset.

(5) Depreciation for Existing Projects shall be calculated annually based on the Straight Line Method and at rates specified in Appendix-I to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

Provided further that in the case of an existing hydro generating station, the generating company, with the consent of the beneficiaries, may charge depreciation at a rate lower than that specified in Appendix I and Appendix II to these Regulations to reduce front loading of tariff.

(6) Depreciation for New Projects shall be calculated annually based on the Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a

period of 15 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

Provided further that in the case of a new hydro generating stations, the generating company, with the consent of the beneficiaries, may charge depreciation at a rate lower than that specified in Appendix II to these Regulations to reduce front loading of tariff.

(7) In the case of the existing projects, the balance depreciable value as on 1.4.2024 shall be worked out by deducting the cumulative depreciation as admitted to by the Commission up to 31.3.2024 from the gross depreciable value of the assets.

(8) The generating company or the transmission licensee, as the case may be, shall submit the details of capital expenditure proposed to be incurred during five years before the competition of useful life along with proper justification and proposed life extension. The Commission, based on prudence check of such submissions, shall approve the depreciation by equally spreading the depreciable value over the balance Operational Life of the generating station or unit thereof or fifteen years, whichever is lower, and in case of the transmission system shall equally spread the depreciable value over the balance useful life of the Asset.

(9) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalised asset during its useful service.

(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 Clauses

(1) to (9) of this Regulation.

(11) Depreciation of the emission control system of an existing generating station that is yet to complete its useful life 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 the straight line method at rates specified in Appendix- I to these regulations;

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of operation of such emission control system shall be spread over the balance period of thirteen years or balance operational life of generating station, whichever is lower.

(12) In case the date of operation of the emission control system is subsequent to the date of completion of the useful life of generating station commercial operation of the generating station or unit thereof, depreciation of ECS shall be computed annually from the date of operation of such emission control system based on the straight line method, with a salvage value of 10% and recovered over ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher.

34. **Interest on Working Capital:** (1) The working capital shall cover:

(a) For Coal-based/lignite-fired thermal generating stations:

(i) Cost of coal or lignite, if applicable, for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity, whichever is lower;

- (ii) Limestone towards stock for 15 days corresponding to the normative annual plant availability.
 - (iii) Advance payment for 30 days towards the cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;
 - (iv) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
 - (v) Maintenance spares @ 20% of operation and maintenance expenses, including water charges and security expenses;
 - (vi) Receivables equivalent to 45 days of capacity charge and energy charge for the sale of electricity calculated on the normative annual plant availability factor; and
 - (vii) Operation and maintenance expenses, including water charges and security expenses, for one month.
- (b) For emission control system of coal or lignite based thermal generating stations:
- (i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;
 - (ii) Advance payment for 30 days towards the 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 the sale of electricity calculated on the normative annual plant availability factor;
 - (iv) Operation and maintenance expenses in respect of the emission control system for

one month;

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

(c) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:

(i) Fuel cost for 15 days corresponding to the normative annual plant availability factor, duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;

Provided that the above shall only be allowed to generating stations that have facilities to store liquid fuel.

(iii) Maintenance spares @ 30% of operation and maintenance expenses, including water charges and security expenses;

(iv) Receivables equivalent to 45 days of capacity charge and energy charge for the sale of electricity calculated on the normative plant availability factor, duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;

(v) Operation and maintenance expenses, including water charges and security expenses, for one month.

(d) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses, including security expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (c) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 59 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the preceding financial year in case of each financial year for which tariff is to be determined:

Provided that in the case of a new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 59 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

(3) Rate of interest on working capital shall be on a normative basis and shall be considered at the Reference Rate of Interest as on 1.4.2024 or as on 1st April of the year during the tariff period 2024-29 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at Reference Rate of Interest as on 1st April of each of the financial year during the tariff period 2024-29.

(4) Interest on working capital shall be payable on a normative basis, notwithstanding that the generating company or the transmission licensee has not taken a loan for working capital from any

outside agency.

35. De-Commissioning

- (1) In case a generating station or unit thereof, or a transmission system including communication systems or element thereof after it is certified by CEA or CTU or any other statutory authority, that any asset cannot be operated or needs to be replaced on account of environmental concerns or safety issues or system upgradation or a combination of these factors not attributable to generating company or a transmission licensee, the unrecovered depreciable value may be allowed to be recovered on a case-to-case basis after duly adjusting the actual salvage value post disposal of such project.

Provided that the manner of recovery, including a number of instalments in which such unrecovered depreciation will be allowed, shall be specified by the Commission on a case-to-case basis.

Provided further that no carrying cost shall be allowed on any delay associated with such recovery.

36. Operation and Maintenance Expenses:

(1) Thermal Generating Station: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

- (1) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations or units referred to in clauses (2), (4) and (5) of this Regulation:

(in Rs Lakh/MW)

Year	200/210/ 250 MW Series	300/330/ 350 MW Series	500 MW Series	600 MW Series	800 MW Series and above
FY 2024-25	39.96	33.09	26.22	24.81	22.33
FY 2025-26	42.32	35.04	27.77	26.27	23.64
FY 2026-27	44.81	37.11	29.41	27.82	25.04
FY 2027-28	47.45	39.29	31.14	29.46	26.51
FY 2028-29	50.25	41.61	32.97	31.20	28.08

Provided further that operation and maintenance expenses of the generating station and the transmission system of Bhakra Beas Management Board (BBMB) and Sardar Sarovar Project (SSP) shall be determined after taking into account provisions of the Punjab Reorganization Act, 1996 and Narmada Water Scheme, 1980 under Section-6 A of the Inter-State Water Disputes Act, 1956 respectively;

Provided also that operation and maintenance expenses of generating station having a unit size of less than 200 MW not covered above shall be determined on a case-to-case basis.

(2) Tanda TPS:

(in Rs Lakh/MW)

Year	Tanda TPS (Unit 1)
FY 2024-25 to FY 2028-29	41.78

(3) Open Cycle Gas Turbine/Combined Cycle generating stations:

(in Rs Lakh/MW)

Year	Gas Turbine Combined Cycle generating stations other than small gas turbine power generating stations	Small gas turbine power generating stations	Agartala GPS	Advance F Class Machines
FY 2024-25	17.22	38.16	42.76	32.02
FY 2025-26	18.24	40.41	45.28	33.91
FY 2026-27	19.31	42.79	47.94	35.91
FY 2027-28	20.45	45.31	50.77	38.02
FY 2028-29	21.66	47.98	53.76	40.26

(4) Lignite-fired generating stations:

(in Rs Lakh/MW)

Year	125 MW Sets
FY 2024-25	39.04
FY 2025-26	41.34
FY 2026-27	43.77
FY 2027-28	46.35
FY 2028-29	49.08

(5) Generating Stations based on coal rejects:

(in Rs Lakh/MW)

Year	O&M Expenses
FY 2024-25	39.04
FY 2025-26	41.34
FY 2026-27	43.77
FY 2027-28	46.35
FY 2028-29	49.08

(6) The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:

Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system or water agreement with state govt./utilities, and the norms specified by the Ministry of Environment, Forest and Climate Change subject to prudence check. The details regarding the same shall be furnished along with the petition;

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses along with the petition seeking the determination of tariff;

Provided also that the generating station shall submit the details of year-wise actual capital spares consumed individually costing above Rs. 20 Lakh at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through

compensatory allowance as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

(7) Any additional O&M expenses incurred by the generating company or transmission licensee due to any change in law or Force Majeure event shall be considered at the time of truing up of tariff.

Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses allowed for the year.

(8) In the case of a generating company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff.

(9) 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 on its date of operation, which shall be escalated annually @ 5.89% during the tariff period ending on 31st March 2029:

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

(2) Hydro Generating Station:

a) The following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 1.4.2024:

(in Rs Lakh)

Particulars	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
THDC Stage I	42,847.30	45,358.18	48,016.19	50,829.97	53,808.64
KHEP	21,264.04	22,510.13	23,829.24	25,225.64	26,703.88
Bairasul	8,500.75	8,998.90	9,526.24	10,084.48	10,675.44
Loktak	9,788.20	10,361.79	10,969.00	11,611.79	12,292.24
Salal	20,486.34	21,686.85	22,957.72	24,303.05	25,727.23
Tanakpur	12,864.33	13,618.19	14,416.22	15,261.02	16,155.32
Chamera-1	16,184.76	17,133.20	18,137.22	19,200.07	20,325.21
Uril	15,019.58	15,899.74	16,831.47	17,817.81	18,861.94
Rangit	7,035.32	7,447.59	7,884.03	8,346.04	8,835.12
Chamera-II	14,262.87	15,098.68	15,983.48	16,920.12	17,911.65
Dhauliganga	12,893.21	13,648.76	14,448.58	15,295.28	16,191.59
Dulhasti	20,739.97	21,955.35	23,241.94	24,603.93	26,045.74
Teesta-V	17,678.36	18,714.33	19,811.00	20,971.93	22,200.90
Sewa-II	9,018.18	9,546.66	10,106.10	10,698.32	11,325.25
TLDP III	10,449.12	11,061.44	11,709.65	12,395.84	13,122.25
Chamera III	10,841.47	11,476.79	12,149.33	12,861.29	13,614.97
Chutak	4,859.97	5,144.76	5,446.25	5,765.40	6,103.26
NimmoBazgo	4,974.77	5,266.30	5,574.90	5,901.60	6,247.43
Uri II	10,409.18	11,019.16	11,664.89	12,348.46	13,072.09
Parbati III	12,183.32	12,897.27	13,653.06	14,453.14	15,300.10
Kishanganga	16,540.30	17,509.57	18,535.64	19,621.84	20,771.69
TLDP IV	11,873.41	12,569.20	13,305.76	14,085.48	14,910.90
Indira Sagar	16,099.67	17,043.12	18,041.86	19,099.12	20,218.34
Omkareshwar	10,837.28	11,472.35	12,144.64	12,856.32	13,609.71
Napthajhakari	53,396.29	56,525.35	59,837.77	63,344.30	67,056.31
Rampur	19,673.68	20,826.57	22,047.02	23,338.99	24,706.67
Koldam	14,317.21	15,156.21	16,044.37	16,984.58	17,979.89
Karcham Wangtoo	14,618.56	15,475.21	16,382.07	17,342.07	18,358.32
Kopili	12,355.69	13,079.74	13,846.22	14,657.61	15,516.56
Khandong I	2,987.44	3,162.51	3,347.84	3,544.02	3,751.70
Khandong II	1,467.98	1,554.00	1,645.07	1,741.47	1,843.52
Doyang	7,627.81	8,074.81	8,548.00	9,048.91	9,579.19
Panyor	16,956.75	17,950.42	19,002.33	20,115.88	21,294.68
Pare	16,623.01	17,597.13	18,628.33	19,719.96	20,875.57
Turial	6,331.98	6,703.04	7,095.84	7,511.66	7,951.85
Maithon	2,526.20	2,674.24	2,830.95	2,996.85	3,172.46
Panchet	2,795.57	2,959.39	3,132.81	3,316.39	3,510.74
Tilaiya	651.37	689.54	729.95	772.73	818.01
Teesta Urja Ltd.	31,368.73	33,206.96	35,152.91	37,212.89	39,393.59

b) In the case of the hydro generating stations declared under commercial operation on or after

1.4.2024, operation and maintenance expenses of the first year shall be fixed at 3.5% and 5.0% of the original project cost (excluding the cost of rehabilitation & resettlement works, IDC and IEDC) for stations with installed capacity exceeding 200 MW and for stations with installed capacity less than 200 MW, respectively.

- c) In the case of hydro generating stations which have not completed a period of three years as on 1.4.2024, operation and maintenance expenses for 2024-25 shall be worked out by applying an escalation rate of 5.86% on the applicable operation and maintenance expenses as on 31.3.2024. The operation and maintenance expenses for subsequent years of the tariff period shall be worked out by applying an escalation rate of 5.86% per annum.
- d) The Security Expenses and Capital Spares for hydro generating stations shall be allowed separately after prudence check:

Provided that the generating station shall submit the assessment of the security requirement and estimated expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

Provided further that the value of capital spares exceeding Rs. 20.00 lakh shall only be considered for reimbursement at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

- e) Any additional O&M expenses incurred by the generating company due to any change in law or Force Majeure event shall be considered at the time of truing up of tariff.

Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses for the year.

f) In the case of a generating company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff.

(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Norms for sub-station Bays (Rs Lakh per bay)					
765 kV	36.28	38.41	40.68	43.07	45.61
400 kV	25.91	27.44	29.06	30.77	32.58
220 kV	18.14	19.21	20.34	21.54	22.81
132 kV and below	12.96	13.72	14.53	15.38	16.29
Norms for Transformers/Reactors (Rs Lakh per MVA or MVAR)					
O&M expenditure per MVA or per MVAR (Rs Lakh per MVA or per MVAR)	0.229	0.242	0.257	0.272	0.288
Norms for AC and HVDC lines (Rs Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	1.220	1.292	1.368	1.448	1.534
Single Circuit (Bundled conductor with four or more sub-conductors)	1.045	1.107	1.172	1.241	1.315
Single Circuit (Twin & Triple Conductor)	0.697	0.738	0.782	0.828	0.876
Single Circuit (Single Conductor)	0.348	0.369	0.391	0.414	0.438
Double Circuit (Bundled Conductor with four or more sub-conductors)	1.830	1.938	2.052	2.173	2.301
Double Circuit (Twin & Triple Conductor)	1.220	1.292	1.368	1.448	1.534
Double Circuit (Single Conductor)	0.523	0.554	0.586	0.621	0.657
Multi Circuit (Bundled Conductor with four or more sub-conductor)	3.212	3.401	3.601	3.814	4.038
Multi Circuit (Twin & Triple Conductor)	2.138	2.264	2.398	2.539	2.689
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per MW)	2.15	2.27	2.41	2.55	2.70
Gazuwaka BTB (Rs Lakh/MW)	1.89	2.00	2.12	2.25	2.38
HVDC bipole scheme (Rs Lakh/MW)	1.13	1.20	1.27	1.34	1.42

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided that the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2500 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for HVDC bipole scheme;

Provided further that the O&M expenses for Transmission Licensees whose transmission assets are located solely in NE Region, States of Uttarakhand and Himachal Pradesh, the Union Territories of Jammu and Kashmir and Ladakh shall be worked out by multiplying 1.50 to the normative O&M expenses prescribed above.

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of substation bays, transformer capacity of the transformer/reactor (in MVA/MVAr) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA/MVAr and per km respectively.

(c) **Communication system:** The operation and maintenance expenses for the ULDC scheme shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.

(d) The Security Expenses and Capital Spares for the transmission system and associated communication system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not claimed as a part of additional capitalisation or consumption

of stores and spares and renovation and modernization.

(e) On the occurrence of any change in law event affecting O&M expenses, the impact shall be allowed to the transmission licensee at the time of truing up of tariff.

Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses for the year.

(f) In case of a transmission licensee owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff.

CHAPTER – 9

COMPUTATION OF INPUT PRICE OF COAL AND LIGNITE

FROM INTEGRATED MINE

37. **Input Price of coal and lignite for energy charges:** (1) Where the generating company has the arrangement for supply of coal or lignite from the integrated mine(s) allocated to it for use in one or more of its generating stations as end use, the energy charge component of tariff of the generating station shall be determined based on the input price of coal or lignite, as the case may be, from such integrated mines in accordance with these regulations.

(2) The generating company shall, after the date of commercial operation of the integrated mine(s) till the input price of coal is determined by the Commission under these regulations, adopt the notified price of Coal India Limited commensurate with the grade of the coal from the integrated mine(s) or the estimated price available in the investment approval, whichever is lower, as the input price of coal for the generating station:

Provided that the difference between the input price of coal determined under these regulations and the input price of coal so adopted prior to such determination, the quantity of coal billed shall be adjusted in accordance with Clause (4) of this Regulation.

(3) The generating company shall, after the date of commercial operation of the integrated mine(s), till the input price of lignite is determined by the Commission under these regulations, fix the input price of lignite for the generating station at the last available pooled lignite price as determined by the Commission for transfer price of lignite or the estimated price available in the investment approval, whichever is lower:

Provided that the difference between the input price of lignite determined under these

regulations and the input price of lignite so fixed prior to such determination, for the quantity of lignite billed, shall be adjusted in accordance with Clause (4) of this Regulation.

(4) In case of excess or short recovery of input price under Clauses (2) or (3) of this Regulation, the generating company shall refund the excess amount or recover the shortfall amount, as the case may be, with simple interest at the rate equal to 1-year SBI MCLR plus 100 basis points prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments.

Provided that such interest shall be payable till the date of issuance of the Order and no interest shall be allowed or levied during the period of six-monthly instalments.

Provided that in case there is a delay in filing the Petition for determination of input price as per the timelines specified under Regulation 9 of these regulations, no carrying cost shall be allowed to the generating company or the mining company for such delay and in such cases the carrying cost at the simple interest rate of 1-year SBI MCLR plus 100 bps shall be allowed from the date of filing of the Petition.

38. **Input Price of coal or Lignite:** (1) Input price of coal or lignite from the integrated mine(s) shall be determined based on the following components:

- I) Run of Mine (ROM) Cost; and
- II) Additional charges:
 - a. crushing charges;
 - b. transportation charge within the mine up to the washery end or coal handling plant associated with the integrated mine, as the case may be;
 - c. handling charges at mine end;
 - d. washing charges; and

e. transportation charges beyond the washery end or coal handling plant, as the case may be, and up to the loading point:

Provided that one or more components of additional charges may be applicable in the case of the integrated mine(s), based on the scope and nature of the mining activities;

Provided further that the input price of lignite shall be computed based on Run of Mine (ROM) based on the technology such as bucket excavator-conveyor or belt-spreader or its combination and handling charges, if any.

(2) Statutory Charges, as applicable, shall be allowed.

39. **Run of Mine (ROM) Cost:** (1) Run of Mine Cost of coal in case of integrated mine(s) allocated through an auction route under the Coal Mines (Special Provisions) Act, 2015 shall be worked out as under:

$$\text{ROM Cost} = (\text{Quoted Price of coal}) + (\text{Fixed Reserve Price})$$

Where,

(i) The Quoted Price of coal is the Final Price Offer of coal in respect of the concerned coal block or mine, along with subsequent escalation, if any, as provided in the Coal Mine Development and Production Agreement:

Provided that additional premium, if any, quoted by the generating company during auction shall not be considered in the Run of Mine Cost;

(ii) Fixed Reserve Price is the fixed reserve price per tonne along with subsequent escalation, if any, as provided in the Coal Mine Development and Production Agreement: and

(iii) Capital cost under Regulation 41 and additional capital expenditure under

Regulation 42 shall not be admissible for the purpose of ROM cost in respect of integrated mine(s) allocated through the auction route.

(2) Run of Mine Cost of coal in case of integrated mine allocated through allotment route under Coal Mines (Special Provisions) Act, 2015 shall be worked out as under:

$$\text{ROM Cost} = [(\text{Annual Extraction Cost} / (\text{ATQ or Actual production whichever is higher}) + \text{Mining Charge}] + (\text{Fixed Reserve Price}).$$

Where,

- (i) Annual Extraction Cost is the cost of extraction of coal as computed in accordance with Regulation 43 of these regulations;
- (ii) Mining Charge is the charge per tonne of coal paid by the generating company to the Mine Developer and Operator engaged by the generating company for mining, wherever applicable; and
- (iii) Fixed Reserve Price is the fixed reserve price per tonne along with subsequent escalation, if any, as provided in the Coal Mine Development and Production Agreement.

(3) Run of Mine Cost of lignite in case of integrated mine(s) for lignite shall be worked out as under:

$$\text{ROM Cost} = [(\text{Annual Extraction Cost} / (\text{ATQ or Actual production whichever is higher}) + (\text{Mining Charge})]$$

Where,

- (i) Annual Extraction Cost is the cost of extraction of lignite as computed in accordance with Regulation 43 of these regulations; and

- (ii) Mining Charge is the charge per tonne of lignite paid by the generating company to the Mine Developer and Operator engaged by the generating company for mining, wherever applicable.

(4) The generating company shall adhere to the Mining Plan for the extraction of coal or lignite on an annual basis and shall submit a certificate to that effect from the Coal Controller or the competent authority:

Provided that deviations from the Mining Plan shall be considered only if such deviations have been approved by the Coal Controller or the revised Mining Plan has been approved by the competent authority.

(5) Run of Mine Cost of coal and lignite shall be worked out in terms of Rupees per tonne.

40. **Additional Charges:** (1) Where crushing or transportation or handling or washing are undertaken by the generating company without engaging the Mine Developer and Operator or an agency other than the Mine Developer and Operator, additional charges shall be worked out as under:

(i) Crushing Charges = Annual Crushing Cost/Quantity;

(ii) Transportation Charges= Annual Transportation Cost/Quantity:

Provided that separate transportation charges, as applicable, shall be considered from the mine up to the washery end or coal handling plant associated with the integrated mine(s) and beyond the washery end or coal handling plant associated with the integrated mine(s) and up to the loading point, as the case may be;

(iii) Handling charges = Annual Handling Cost/ Quantity; and

(iv) Washing Charges = Annual Washing Cost/Quantity.

Where,

- (a) Annual Crushing Cost, Annual Transportation Cost, Annual Handling Cost and Annual Washing Cost shall be worked out on the basis of the following components, for which the generating company shall submit the capital cost separately:
 - (i) Depreciation;
 - (ii) Interest on Working Capital;
 - (iii) Interest on Loan;
 - (iv) Return on Equity;
 - (v) Operation and Maintenance Expenses, excluding mining charge;
 - (vi) Statutory charges, if applicable.
- (b) Quantity shall be the quantity of coal or lignite in a tonne crushed or transported or handled or washed, as the case may be, during the year duly certified by the Auditor.

(2) Where crushing, transportation, handling, or washing are within the scope of the Mine Developer and Operator engaged by the generating company, no additional charges shall be admitted, as the same shall be recovered through the Mining Charge of the Mine Developer and Operator.

(3) Where crushing, transportation, handling, or washing are undertaken by the generating company by engaging an agency other than the Mine Developer and Operator, the annual charges of such agencies shall be considered as part of the Operation and Maintenance Expenses, provided that the charges have been discovered through a transparent, competitive bidding process.

(4) The crushing charges, transportation charges, handling charges, and washing charges shall be admitted by the Commission after a prudence check, considering charges of Coal India Limited or similarly placed coal mines or any other reference charges.

(5) The crushing charges, transportation charges, handling charges, and washing charges shall be worked out in terms of Rupees per tonne.

41. **Capital Cost:** (1) The expenditure incurred, including IDC and IEDC, duly certified by the Auditor, for the development of the integrated mine(s) up to the date of commercial operation shall be considered for arriving at the capital cost.

(2) Capital expenditure incurred shall be admitted by the Commission after a prudence check.

(3) Capital expenditure incurred on infrastructure for crushing, transportation, handling, washing and other mining activities required for mining operations shall be arrived at separately in accordance with these regulations:

Provided that where crushing, transportation, handling or washing are undertaken by the generating company, the expenditure incurred on infrastructures of these components shall be capitalized;

Provided further that where mine development and operation, with or without any component of crushing, transportation, handling or washing, are undertaken by the generating company by engaging the Mine Developer and Operator or an agency other than the Mine Developer and Operator, the capital expenditure incurred by the Mine Developer and Operator or such agency shall not be capitalised by the generating company and shall not be considered for the determination of input price.

(4) The capital expenditure shall be determined by considering, but not limited to, the Mining

Plan, detailed project report, mine closure plan, cost audit report and such other details as deemed fit by the Commission.

(5) In the case of integrated mine(s) which have declared the date of commercial operation prior to 1.4.2024, the capital expenditure allowed by the Commission for the period ending 31.3.2024 shall form the basis for the computation of input price.

42. **Additional Capital Expenditure:** (1) The expenditure, in respect of the integrated mine(s), incurred or projected to be incurred after the date of commercial operation and up to the date of achieving the Peak Rated Capacity may be admitted by the Commission, subject to a prudence check and shall be capitalized in the respective year of the tariff period as additional capital expenditure corresponding to the Annual Target Quantity of the year as specified in the Mining Plan or actual extraction in that year, whichever is higher, on following counts:

- (a) expenditure incurred on activities as per the Mining Plan;
- (b) expenditure for works deferred for execution and un-discharged liabilities recognized for works executed prior to the date of commercial operation;
- (c) expenditure for works required to be carried out for complying with directions or orders of any statutory authorities;
- (d) liabilities arising out of compliance with the order or decree of any court of law or award of arbitration;
- (e) expenditure for procurement and development of land as per the Mining Plan;
- (f) expenditure for procurement of additional heavy earth moving machineries for replacement, on completion of their useful life; and

- (g) liabilities due to Change in Law or Force Majeure event;

Provided that in case of replacement of any assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization:

Provided further that the generating company shall prepare guidelines for procurement and replacement of heavy mining equipment such as Heavy Earth Moving Machineries and share the same with the beneficiaries and submit it to the Commission along with its petition.

(2) The expenditure, in respect of the integrated mine(s), incurred or projected to be incurred after the date of achieving the Peak Rated Capacity may be admitted by the Commission subject to a prudence check, and shall be capitalized as Additional Capital Expenditure, corresponding to the Annual Target Quantity of the respective years as specified in the Mining Plan, on following counts:

- (a) expenditure incurred on activities, if any, as per the Mining Plan;
- (b) expenditure for works required to be carried out for complying with directions or orders of any statutory authority;
- (c) liabilities arising out of compliance with an order or decree of any court of law or award of arbitration;
- (d) expenditure for procurement and development of land as per the Mining Plan;
and
- (e) liabilities due to Change in Law or Force Majeure events;

Provided that in case of replacement of any assets, the additional capitalization shall be worked out after adjusting the gross fixed assets, cumulative depreciation and cumulative repayment

of loan of the assets replaced on account of de-capitalization.

(3) The expenditure on the following counts shall not be considered as additional capital expenditure for the purpose of these regulations:

- a) expenditure incurred but not capitalized as the assets have not been put in service (capital work in progress);
- b) mine closure expenses;
- c) expenditure on works not covered under the Mining Plan, unless covered under sub-clause (g) of Clause (1) or sub-clause (e) of Clause (2) of this Regulation;
- d) expenditure on replacement due to obsolescence of assets on account of completion of the useful life or due to obsolescence of technology if the original cost of such assets has not been de-capitalised from the gross fixed assets.

43. **Annual Extraction Cost:** The Annual Extraction Cost of integrated mine(s) shall consist of the following components:

- (i) Depreciation;
- (ii) Interest on Loan;
- (iii) Return on Equity;
- (iv) Operation and Maintenance Expenses, excluding mining charge;
- (v) Interest on Working Capital;
- (vi) Mine closure expenses, if not included in mining charge; and

(vii) Statutory charges, if applicable.

44. **Capital Structure, Return on Equity and Interest on Loan:** (1) For integrated mine(s), the debt-equity ratio as on the date of commercial operation and as on the date of achieving Peak Rated Capacity shall be considered in the manner as specified under Clause (1) of Regulation 18 of these regulations:

Provided that for integrated mine(s) in respect of lignite with the date of commercial operation prior to 1.4.2024, the debt-equity ratio allowed by the Commission for the period ending 31.3.2024 shall form the basis for computation of input price.

(2) For integrated mine(s), the debt-equity ratio for additional capital expenditure admitted by the Commission under these regulations shall be considered in the manner specified under Clause (1) of this Regulation.

(3) Return on equity shall be computed in rupee terms on the equity base arrived under Clause (1) of this Regulation at the base rate of 14%.

(4) The base rate of return on equity as per Clause (3) of this Regulation shall be grossed up with the effective tax rate computed in the manner specified under Regulation 31 of these regulations.

(5) Interest on loan, including normative loan, if any, determined under Clause (1) of this Regulation, shall be arrived at by considering the weighted average rate of interest calculated on the basis of the actual loan portfolio, in accordance with Clauses (2) to (8) of Regulation 32 of these regulations.

45. **Depreciation:** (1) Depreciation in respect of integrated mine(s) shall be computed from the date of commercial operation by applying the Straight Line Method:

Provided that depreciation methodology allowed in respect of integrated mine(s) of lignite which have been declared under commercial operation on or before 31.3.2024, shall continue to

apply for determination of input price of lignite.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission:

Provided that,

- i) freehold land or assets purchased from grant shall not be considered as depreciable assets, and their cost shall be excluded from the capital cost while computing the depreciable value of the assets;
- ii) where the allotment of freehold land is conditional and is required to be returned, the cost of such land shall be part of the value base for the purpose of depreciation, subject to a prudence check by the Commission; and
- iii) leasehold land shall be amortized over the lease period or remaining life of the integrated mine(s), whichever is lower.

(3) The salvage value of an asset shall be considered as 5% of the capital cost of the asset:

Provided that the salvage value shall be:

- i) zero for IT equipment and software;
- ii) zero or as agreed by the generating company with the State Government for land; and
- iii) as notified by the Ministry of Corporate Affairs under the Companies Act, 2013 for specialized mining equipment.

(4) Depreciation in respect of integrated mine(s) shall be arrived at annually by applying depreciation rates or on the basis of expected useful life specified in Appendix III of these regulations:

Provided that specialized mining equipment shall be depreciated as per the useful life and depreciation rate as notified by the Ministry of Corporate Affairs under the Companies Act, 2013.

46. **Operation and Maintenance Expenses:** (1) The Operation and Maintenance Expenses in respect of integrated mine(s) shall be allowed as under:

(a) The Operation and Maintenance expenses in respect of integrated mine(s) of coal, for the tariff period ending on 31st March 2029 shall be allowed based on the projected Operation and Maintenance Expenses for each year of the tariff period subject to prudence check by the Commission;

Provided that the Operation and Maintenance expenses allowed under this clause shall be trued up based on actual expenses for the tariff period ending on 31st March 2029.

(b) The Operation and Maintenance expenses for the tariff period ending on 31st March 2029 in respect of the integrated mine(s) of lignite commissioned on or before 31st March 2024 shall be worked out based on the Operation and Maintenance expenses as admitted by the Commission during 2023-24 and escalated at the rate of 5.89 % per annum;

(c) The Operation and Maintenance expenses for the tariff period ending on 31st March 2029 in respect of the integrated mine(s) of lignite commissioned after 31st March 2024 shall be allowed based on the projected Operation and Maintenance Expenses for each year of the tariff period, subject to prudence check by the Commission;

Provided that the Operation and Maintenance expenses allowed under this clause shall be trued up based on actual expenses for the tariff period ending on 31st March 2029.

(2) Where the development and operation of the integrated mine(s) is undertaken by the generating company by engaging the Mine Developer and Operator, the Mining Charge of such Mine Developer

and Operator shall not be included in Operation and Maintenance Expenses under Clause (1) of this Regulation;

(3) Where an agency other than Mine Developer and Operator is engaged by the generating company, through a transparent competitive bidding process, for crushing or transportation or handling or washing or any combination thereof, the annual charges of such agency shall be considered as part of Operation and Maintenance Expenses under clause (1) of this Regulation, subject to a prudence check by the Commission.

47. **Interest on Working Capital:** (1) The working capital of the integrated mine(s) of coal shall cover:

- (i) Input cost of coal stock for 7 days of production corresponding to the Annual Target Quantity for the relevant year;
- (ii) Consumption of stores and spares, including explosives, lubricants and fuel @ 15% of operation and maintenance expenses, excluding mining charge of the Mine Developer and Operator and annual charges of the agency other than the Mine Developer and Operator, engaged by the generating company; and
- (iii) Operation and maintenance expenses for one month, excluding the mining charge of the Mine Developer and Operator and annual charges of the agency other than the Mine Developer and Operator engaged by the generating company.

(2) The working capital of the integrated mine(s) of lignite shall cover: -

- (i) Input cost of lignite stock for 7 days of production corresponding to the Annual Target Quantity for the year;
- (ii) Consumption of stores and spare including explosives, lubricants and fuel @20%

of Operation and Maintenance expenses, excluding Mining Charge of the Mine Developer and Operator and annual charges of the agency other than the Mine Developer or Operator engaged by the generating company; and

(iii) Operation and Maintenance expenses for one month, excluding the Mining Charge of the Mine Developer and Operator and annual charges of the agency other than the Mine Developer and Operator, engaged by the generating company.

(3) The rate and payment of interest on working capital shall be determined in accordance with Clauses (3) and (4) of Regulation 34 of these regulations.

48. **Mine Closure Expenses:** (1) Where the mine closure is undertaken by the generating company, the amount deposited in the Escrow account as per the Mining Plan, after adjusting interest earned, if any, on the said deposits shall be admitted as Mine Closure Expenses:

Provided that,

- a) the amount deposited in the Escrow account as per the Mining Plan prior to the Date of Commercial Operation of the integrated mine(s) shall be indicated separately and shall be recovered over the useful life of the integrated mine(s) in the form of annuity linked to the borrowing rate;
- b) the amount deposited in the Escrow account as per the Mining Plan or any expenditure incurred towards mine closure shall be excluded from the capital cost for computing input price;
- c) where the expenditure incurred towards mine closure falls short of or is in excess of the reimbursement received from the Escrow account during the tariff period 2024-29, the shortfall or excess shall be carried forward to the subsequent years for

adjustments.

(2) The amount towards mine closure shall be deposited in the Escrow account as per the Mining Plan and shall be recovered as part of the input price irrespective of the expenditure incurred towards mine closure during any of the years of the tariff period.

(3) Where mine closure is within the scope of the Mine Developer and Operator engaged by the generating company and mine closure expenses are part of the Mining Charge of the Mine Developer and Operator, the mine closure expenses shall be met out of the Mining Charge, and no mine closure expenses shall be admissible to the generating company separately:

Provided that,

- a) the amount deposited in the Escrow account by the Mine Developer and Operator or by the generating company and any amount received from the Escrow Account against expenditure incurred towards mine closure shall not be considered for computing input price; and
- b) the difference between the borrowing cost, arrived at by considering the weighted average rate of interest calculated on the basis of the actual loan portfolio in accordance with the methodology specified in Regulation 32 of these regulations, and the amount deposited in the Escrow account and the interest received from Escrow account in a year shall be adjusted in the input price of coal or lignite of the respective year, as part of mine closure expenses, on case to case basis;

(4) Where the mine closure is within the scope of the Mine Developer and Operator engaged by the generating company only for a part of useful life of the integrated mine(s) and the generating company undertakes the mine closure for the balance useful life, the treatment of mine closure during the period undertaken by the generating company shall be in accordance with Clause (1) of

this Regulation and mine closure during the period undertaken by the Mine Developer and Operator shall be in accordance with Clause (3) of this Regulation:

Provided that the treatment of mine closure at the end of the useful life of the integrated mine(s) shall be decided by the Commission on a case-to-case basis.

(5) The mine closure expenses worked out in accordance with this Regulation shall not be applicable in case of the integrated mine(s) allocated through an auction route under the Coal Mines (Special Provisions) Act, 2015.

49. **Determination of Input Price:** (1) The input price of coal or lignite shall be determined as under:

$$\text{Input Price} = [\text{ROM Cost} + \text{Additional charges}]$$

(2) The credit arising on account of adjustment due to shortfall in overburden removal, GCV Adjustment and Non- tariff Income, if any, shall be dealt with separately in the manner specified in these regulations.

(3) Statutory Charges, as applicable, shall be allowed.

50. **Recovery of Input Charges:** (1) The input charges of coal or lignite shall be recovered as under:

$$\text{Input Charges} = [\text{Input Price} \times \text{Quantity of coal or lignite supplied}] + \text{Statutory charges, as applicable};$$

Provided that where the energy charge rate based on the input price of coal from integrated mine(s) exceeds 20% of the energy charge rate based on the notified price of Coal India Limited for the commensurate grade of coal in a month, prior consent of the beneficiary(ies) shall be required to be obtained by the generating company;

Provided further that where such consents of beneficiaries are not available, the input price of coal from such integrated mine(s) shall be so fixed that the energy charge rate based on the input price of coal from integrated mine(s) does not exceed by more than 20% of the energy charge rate based on the notified price of Coal India Limited for the commensurate grade of coal in a month;

Provided also that the energy charge rate based on the input price of coal does not lead to a higher energy charge rate throughout the tenure of the power purchase agreement than that which would have been obtained as per terms and conditions of the existing power purchase agreement.

(2) The generating company shall work out the comparative energy charge rate based on the input price of coal and notified price of Coal India Limited for the commensurate grade of coal for every month from the date of commercial operation of integrated mine(s) and share the same with beneficiaries.

51. Adjustment on account of Shortfall of Overburden Removal (OB Adjustment):

(1) The generating company shall remove overburden as specified in the Mining Plan.

(2) In case of a shortfall of overburden removal during a year, the generating company shall be allowed to adjust such shortfall against excess of overburden removal, if any, during the subsequent three years.

(3) In case of excess of overburden removal during a year, the generating company shall be allowed to carry forward such excess for adjustment against the shortfall, if any, during the subsequent three years.

(4) Where the shortfall of overburden removal of any year is not made good by the generating company in accordance with Clause (2) of this Regulation, the adjustment on account of the shortfall of overburden removal (OB Adjustment) for that year shall be worked out as under:

OB Adjustment = [Factor of adjustment for shortfall of overburden removal during the year] x [Mining Charge during the year + Operation and Maintenance expenses during the year]

Where,

- i) Factor of adjustment for the shortfall of overburden removal during the year shall be computed as under:

[(Actual quantity of coal or lignite extracted during the year x Annual Stripping Ratio as per Mining Plan) - (Actual quantity of overburden removed during the year/ Annual Stripping Ratio as per Mining Plan)]/ (Annual Target Quantity);

- ii) Annual Stripping ratio is the ratio of the volume of overburden to be removed for one unit of coal or lignite as specified in the Mining Plan.
- iii) Mining Charge is the charge per tonne of coal or lignite paid by the generating company to the Mine Developer and Operator engaged by the generating company for mining, wherever applicable.
- iv) Mining Charge and Operation and Maintenance expenses shall be in terms of Rupees per tonne corresponding to the Annual Target Quantity.

(5) The provisions of this Regulation regarding adjustment on account of shortfall of overburden removal shall not be applicable in case of the integrated mine(s) allocated through an auction route under the Coal Mines (Special Provisions) Act, 2015.

52. **Adjustment on account of shortfall in GCV (GCV Adjustment):** (1) In case the weighted average GCV of coal extracted from the integrated mine(s) in a year is higher than the declared GCV

of coal for such mine(s), no GCV adjustment shall be allowed.

(2) In case the weighted average GCV of coal extracted from the integrated mine(s) in a year is lower than the declared GCV of coal of such mine(s), the GCV adjustment in that year shall be worked out as under:

(a) Where the integrated mine(s) are allocated through an auction route under the Coal Mines (Special Provisions) Act, 2015:

$$\text{GCV Adjustment} = (\text{Quoted Price of coal} + \text{Fixed Reserve Price}) \times [(\text{Declared GCV of coal} - \text{Weighted Average GCV of coal extracted in the year}) / (\text{Declared GCV of coal})]$$

Where,

i) Quoted Price of coal is the Final Price Offer of coal in respect of the concerned coal Block or Mine, along with subsequent escalation, if any, as provided in the Coal Mine Development and Production Agreement:

Provided that additional premium, if any, quoted by the generating company in the auction shall not be considered; and

ii) Declared GCV of coal shall be the GCV of coal as specified or quoted in the auction.

(b) Where the integrated mine(s) are allocated through an allotment route under the Coal Mines (Special Provisions) Act, 2015:

$$\text{GCV Adjustment} = [(\text{Annual Extraction Cost}/\text{ATQ}) + (\text{Mining Charge})] \times [(\text{Declared GCV of coal} - \text{Weighted Average GCV of coal extracted in the year}) / (\text{Declared GCV of coal})]$$

Where,

- i) Annual Extraction Cost is the cost of extraction of coal as computed in accordance with Regulation 43 of these regulations;
- ii) Mining Charge is the charge per tonne of coal paid by the generating company to the Mine Developer and Operator engaged by the generating company for mining, wherever applicable; and
- iii) Declared GCV of coal shall be the average GCV as per the Mining Plan or as approved by the Coal Controller.

53. **Adjustment on account of Non-tariff income (NTI Adjustment):** (1) Adjustment on account of non-tariff income (NTI Adjustment) for any year, such as income from sale of washery rejects in case of integrated mine of coal and profit, if any, from supply of coal to the Coal India Limited or merchant sale of coal as allowed under the Coal Mines (Special Provisions) Act, 2015 shall be worked out as under:

$$\text{NTI Adjustment} = (2/3) \times (\text{Total Non-tariff income during the year}) / (\text{Actual quantity of coal or lignite extracted during the year})$$

(2) The adjustment on account of non-tariff income worked out in accordance with this Regulation shall not be applicable in case of the integrated mine(s) allocated through an auction route under the Coal Mines (Special Provisions) Act, 2015.

54. **Credit Adjustment Note:** (1) The credit arising on account of OB Adjustment, GCV Adjustment, and NTI Adjustment shall be dealt with through a Credit Adjustment Note for any year.

(2) The Credit Adjustment Note shall be issued in favour of the specified end use generating stations on account of OB Adjustment, GCV Adjustment or NTI Adjustment, as the case may be, for that

year as under:

- (i) OB Adjustment for the year X Quantity of coal or lignite supplied in that year;
- (ii) GCV Adjustment for the year X Quantity of coal or lignite supplied in that year;
- and
- (iii) NTI Adjustment in the year X Quantity of coal or lignite supplied in that year.

(3) The amount in the Credit Adjustment Note shall be adjusted against the charges of coal or lignite supplied after the date of issue of the Credit Adjustment Note. The integrated mine(s) shall prepare an annual reconciliation statement of such adjustment and furnish the same to all the end use plants and also publish the same on its website.

55. **Quality Measurement:** The quality of coal or lignite supplied from the integrated mine(s) shall be measured at the loading point through third party sampling as per the guidelines and procedure specified by the Ministry of Coal, Government of India and records of such measurement of quality of coal shall be made available to the beneficiaries on demand.

56. **Special Provision:** Provisions of Chapters 5 to 8 of these regulations shall not be applicable in case of integrated mine(s), except to the extent specifically provided for or referred to in Chapter-9:

Provided that the financial parameters required for determination of input price of coal or lignite from integrated mine(s), if not specifically provided for or referred to in Chapter-9, shall be considered as per provisions of these regulations as applicable to the coal or lignite based generating stations.

CHAPTER – 10

COMPONENTS OF ENERGY CHARGE

57. **Energy Charges and Supplementary Energy Charges:** The energy charge and Supplementary Energy Charges in respect of the thermal generating Stations shall comprise the landed cost of primary fuel, secondary fuel oil consumption and reagents on account of the implementation of the revised emission standards.

58. **Landed Fuel Cost of Primary Fuel:** The landed fuel cost of primary fuel for any month shall consist of the base price or input price of fuel corresponding to the grade and quality of fuel and shall be inclusive of statutory charges as applicable, washery charges, transportation cost by rail or road or any other means and loading, unloading and handling charges:

Provided that procurement of fuel at a price other than Government notified prices may be considered if it is based on competitive bidding through a transparent process;

Provided further that the landed fuel cost of primary fuel shall be worked out based on the actual bill paid by the generating company, including any adjustment on account of quantity and quality;

Provided also that in the case of coal-fired or lignite based thermal generating station, the Gross Calorific Value shall be measured by third party sampling, and the expenses towards the third party sampling facility shall be reimbursed by the beneficiaries.

59. **Transit and Handling Losses:** For coal and lignite, the transit and handling losses shall be as per the following norms: -

Thermal Generating Station	Transit and Handling Loss(%)
Pit head	0.20%
Non-pit head - Rail	0.80%

Non-pit head multi-modal transportation (using two or more than two mode of transport involving multiple trans-shipments)	1.00%
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Provided that in the case of pit-head stations, if coal or lignite is procured from sources other than the pit-head mines which is transported to the station through rail, transit and handling losses applicable for non-pit head stations shall apply;

Provided further that in case of imported coal, the transit and handling losses applicable for pit-head station shall apply.

60. **Gross Calorific Value of Primary Fuel:** (1) The gross calorific value for computation of energy charges as per Regulation 64 of these regulations shall be done in accordance with 'GCV as Received';

Provided that the generating station shall have third party sampling done at the billing end and the receiving end through an agency certified by the Ministry of Coal and ensure recovery of compensation as per Fuel Supply Agreement(s) and pass on the benefits of the same to the beneficiaries of the generating station;

Provided further that in the absence of any third party sampling through an agency certified by the Ministry of Coal, the GCV shall be considered on the basis of 'as billed' by the Supplier less:

- i. Actual loss in calorific value of coal between as billed by the supplier and as received at the generating station, subject to maximum loss in calorific value of 300 kCal/kg for Pit-head based generating stations or generating stations with Integrated mine and 600 kCal/kg for Non-Pit Head based generating stations.

No loss in calorific value between 'GCV as billed' and 'GCV as received' is admissible for generating stations procuring coal from Integrated mines or through the import of coal.

(2) The generating company shall provide to the beneficiaries of the generating station the details in respect of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the Form 15 prescribed at Annexure-I (Part I) to these regulations:

Provided that the additional details of the weighted average GCV of the fuel on a received basis used for generation during the period, the blending ratio of the imported coal with domestic coal, and the proportion of e-auction coal shall be provided, along with the bills of the respective month;

Provided further copies of the bills and details of parameters of GCV and price of fuel such as domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel, details of blending ratio of the imported coal with domestic coal, the proportion of e-auction coal shall also be displayed on the website of the generating company.

61. **Landed Cost of Reagent:** (1) Where specific reagents such as Limestone, Sodium Bi-Carbonate, Urea or Anhydrous Ammonia are used during the operation of an emission control system for meeting revised emission standards, the landed cost of such reagents shall be determined based on the normative consumption and the purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost.

(2) The normative consumption of specific reagents for the various technologies installed for meeting revised emission standards shall be as specified in Regulation 70 of these regulations.

CHAPTER – 11

COMPUTATION OF CAPACITY CHARGES AND ENERGY CHARGES

62. Computation and Payment of Capacity Charge for Thermal Generating Stations:

(1) The fixed cost of a thermal generating station shall be computed on annual basis based on the norms specified under these regulations and recovered on a monthly basis under capacity charge. The total 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 capacity charge shall be recovered in two parts, viz., Capacity Charge for Peak Hours of the month and Capacity Charge for Off- Peak Hours of the month as follows:

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

Capacity Charge for the Month (CC_n) =

Capacity Charge for Peak Hours of the Month (CC_{pn}) +

Capacity Charge for Off-Peak Hours of the Month (CC_{opn})

Where,

$$CC_{p1} = [(0.20 \times AFC) \times (1/12) \times (PAFM_{p1}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/12)\}]$$

$$CC_{p2} = [(0.20 \times AFC) \times (1/6) \times (PAFM_{p2}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/6)\}]$$

$$- CC_{p1}$$

$$CC_{p3} = [(0.20 \times AFC) \times (1/4) \times (PAFM_{p3}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/4)\}]$$

$$- (CC_{p1} + CC_{p2})$$

$$CC_{p4} = [(0.20 \times AFC) \times (1/3) \times (PAFM_{p4}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/3)\}]$$

$$- (CC_{p1} + CC_{p2} + CC_{p3})$$

$$CC_{p5} = [(0.20 \times AFC) \times (5/12) \times (PAFM_{p5}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (5/12)\}]$$

$$- (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4})$$

$$CC_{p6} = [(0.20 \times AFC) \times (1/2) \times (PAFM_{p6}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/2)\}] -$$

$$(CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5})$$

$$CC_{p7} = [(0.20 \times AFC) \times (7/12) \times (PAFM_{p7}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (7/12)\}]$$

$$- (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6})$$

$$CC_{p8} = [(0.20 \times AFC) \times (2/3) \times (PAFM_{p8}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (2/3)\}] -$$

$$(CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7})$$

$$CC_{p9} = [(0.20 \times AFC) \times (3/4) \times (PAFM_{p9}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (3/4)\}] -$$

$$(CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8})$$

$$CC_{p10} = [(0.20 \times AFC) \times (5/6) \times (PAFM_{p10}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (5/6)\}]$$

$$- (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9})$$

$$CC_{p11} = [(0.20 \times AFC) \times (11/12) \times (PAFM_{p11}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times$$

$$(11/12)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9} + CC_{p10})$$

$$CC_{p12} = [(0.20 \times AFC) \times (PAFM_{p12}/NAPAF) \text{ subject to ceiling of } (0.20 \times AFC)] - (CC_{p1} + CC_{p2} +$$

$$CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9} + CC_{p10} + CC_{p11})$$

$$CC_{op1} = (0.80 \times AFC) \times (1/12) \times (PAFM_{op1}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/12)\}$$

$$CC_{op2} = [(0.80 \times AFC) \times (1/6) \times (PAFM_{op2}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/6)\}]$$

$$- CC_{op1}$$

$$CC_{op3} = [(0.80 \times AFC) \times (1/4) \times (PAFM_{op3}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/4)\}] - (CC_{op1} + CC_{op2})$$

$$CC_{op4} = [(0.80 \times AFC) \times (1/3) \times (PAFM_{op4}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/3)\}] - (CC_{op1} + CC_{op2} + CC_{op3})$$

$$CC_{op5} = [(0.80 \times AFC) \times (5/12) \times (PAFM_{op5}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (5/12)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4})$$

$$CC_{op6} = [(0.80 \times AFC) \times (1/2) \times (PAFM_{op6}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/2)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5})$$

$$CC_{op7} = [(0.80 \times AFC) \times (7/12) \times (PAFM_{op7}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (7/12)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6})$$

$$CC_{op8} = [(0.80 \times AFC) \times (2/3) \times (PAFM_{op8}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (2/3)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7})$$

$$CC_{op9} = [(0.80 \times AFC) \times (3/4) \times (PAFM_{op9}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (3/4)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8})$$

$$CC_{op10} = [(0.80 \times AFC) \times (5/6) \times (PAFM_{op10}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (5/6)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9})$$

$$CC_{op11} = [(0.80 \times AFC) \times (11/12) \times (PAFM_{op12}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (11/12)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9} + CC_{op10})$$

$$CC_{op12} = [(0.80 \times AFC) \times (PAFM_{op12}/NAPAF) \text{ subject to ceiling of } (0.80 \times AFC)] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9} + CC_{op10} + CC_{op11})$$

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

Where,

CC_m = Capacity Charge for the Month;

CC_P = Capacity Charge for the Peak Hours of the Month;

CC_{op} = Capacity Charge for the Off-Peak Hours of the Month;

CC_{pn} = Capacity Charge for the Peak Hours of n^{th} Month;

CC_{opn} = Capacity Charge for the Off-Peak of n^{th} Month;

AFC = Annual Fixed Cost;

$PAFM_{pn}$ = Plant Availability Factor achieved during Peak Hours up to the end of n^{th} Month;

$PAFM_{opn}$ = Plant Availability Factor achieved during Off-Peak Hours up to the end of n^{th} Month;

$NAPAF$ = Normative Annual Plant Availability Factor.

(3) Normative Plant Availability Factor for "Peak" and "Off-Peak" Hours in a month shall be equivalent to the $NAPAF$ specified in Clause (A) of Regulation 70 of these regulations. The number of hours of "Peak" and "Off-Peak" periods during a day shall be four and twenty, respectively. The hours of Peak and Off-Peak periods during a day shall be declared by the concerned RLDC at least a week in advance.

Provided that RLDC, after duly considering the comments of the concerned stakeholders,

shall declare Peak Hours in such a way as to coincide with the majority of the Peak Hours of the region to the maximum extent possible:

Provided further that in respect of a generating station having beneficiaries across different regions, the Peak Hours shall correspond to Peak Hours of the region in which the majority of its beneficiaries, in terms of percentage of allocation of share, are located.

The shortfall in recovery of 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 Capacity Charge for cumulative Peak Hours.

Provided that the shortfall in recovery of 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 Capacity Charge for cumulative Off-Peak Hours.

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

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

Where,

AUXn = Normative auxiliary energy consumption as a percentage of gross energy generation;

AUXen= Normative auxiliary energy consumption for emission control system as a percentage of gross energy generation, wherever applicable;

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

IC = Installed Capacity (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.

(5) In addition to the AFC entitlement as computed above, the thermal generating station shall be allowed an incentive of up to 1.00% of AFC approved for a given year, which shall be billed monthly as per the following.

$$\text{Incentive} = (1.00\% \times \beta \times \text{CC}_y)/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC and shall range between 0 to 1.

CC_y = Capacity Charges for the Year.

(6) In addition to the capacity charge, an incentive shall be payable to a generating station or unit thereof @ 75 paise/ kWh for ex-bus scheduled energy during Peak Hours and @ 50 paise/ kWh for ex-bus scheduled energy during Off-Peak Hours corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) achieved on a cumulative basis, as specified in Clause (B) of Regulation 70 of these regulations.

(7) The provisions under Clauses (1) to (6) of this Regulation shall come into force with effect from 1.4.2024. Till that date, the capacity charge for a thermal generating station determined under these regulations shall be recovered in accordance with the provisions contained in Regulation 42 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019,

subject to the condition that the NAPAF and NAPLF shall be taken as specified under these regulations.

63. Computation and Payment of Supplementary Capacity Charge for Coal or Lignite based Thermal Generating Stations:

(1) The fixed cost of the emission control system shall be computed on an annual basis based on the norms specified under these regulations and recovered on a monthly basis under a supplementary capacity charge. The total supplementary capacity charge is 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.

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

$$SCC_1 = (AFC_e) \times (1/12) \times (PAFM_1/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (1/12)\}$$

$$SCC_2 = [(AFC_e) \times (1/6) \times (PAFM_2/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (1/6)\}] - SCC_1$$

$$SCC_3 = [(AFC_e) \times (1/4) \times (PAFM_3/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (1/4)\}] - (SCC_1 + SCC_2)$$

$$SCC_4 = [(AFC_e) \times (1/3) \times (PAFM_4/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (1/3)\}] - (SCC_1 + SCC_2 + SCC_3)$$

$$SCC_5 = [(AFC_e) \times (5/12) \times (PAFM_5/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (5/12)\}] - (SCC_1 + SCC_2 + SCC_3 + SCC_4)$$

$$SCC_6 = [(AFC_e) \times (1/2) \times (PAFM_6/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (1/2)\}] - (SCC_1 + SCC_2 + SCC_3 + SCC_4 + SCC_5)$$

$$SCC_7 = [(AFC_e) \times (7/12) \times (PAFM_7/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (7/12)\}] -$$

$$(SCC_1+SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6)$$

$$SCC_8= [(AFC_e) \times (2/3) \times (PAFM_8/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (2/3)\}] - (SCC_1+ SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6 +SCC_7)$$

$$SCC_9= [(AFC_e) \times (3/4) \times (PAFM_9/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (3/4)\}] - (SCC_1+ SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6+SCC_7+SCC_8)$$

$$SCC_{10}= [(AFC_e) \times (5/6) \times (PAFM_{10}/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (5/6)\}] - (SCC_1+ SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6 +SCC_7 +SCC_8 +SCC_9)$$

$$SCC_{11}= [(AFC_e) \times (11/12) \times (PAFM_{11}/NAPAF) \text{ subject to ceiling of } \{(AFC_e) \times (11/12)\}] - (SCC_1+ SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6 +SCC_7+SCC_8+SCC_9+SCC_{10})$$

$$SCC_{12}= [(AFC_e) \times (PAFM_{12}/NAPAF) \text{ subject to ceiling of } (AFC_e)] - (SCC_1+ SCC_2+ SCC_3+SCC_4+SCC_5+SCC_6 +SCC_7+SCC_8+SCC_9+SCC_{10}+SCC_{11})$$

Provided that in case of the 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 the loan in respect of the emission control system only.

Where,

SCC_n= Supplementary Capacity Charge for the nth Month;

AFC_e = Annual Fixed Cost of the emission control system;

PAFM_n= Plant Availability Factor achieved up to the end of nth Month;

NAPAF= Normative Annual Plant Availability Factor.

(3) Normative Plant Availability Factor for a month for the purpose of Supplementary Capacity Charge shall be considered in the manner specified in Clause (3) of Regulation 62 of these

regulations. The PAFM shall be worked out in accordance with Clause (4) of Regulation 62 of these regulations.

64. Computation and Payment of Energy Charge for Thermal Generating Stations and Supplementary Energy Charge for Coal or Lignite based Thermal Generating Stations:

(1) The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable) and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment).

The total Energy charge payable to the generating company for a month shall be:

$$\text{Energy Charges} = (\text{Energy charge rate in Rs./kWh}) \times \{\text{Scheduled energy-(ex bus) for the month in kWh}\}$$

(2) The supplementary energy charge on account of the 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 an ex-power plant basis, at the supplementary energy charge rate of the month. The total supplementary energy charge payable to the generating company for a month shall be:

$$\text{Supplementary Energy Charges} = (\text{Supplementary energy charge rate in Rs./kWh}) \times \{\text{Scheduled energy (ex-bus) for the month in kWh}\}$$

(3) Energy charge rate (ECR) and Supplementary Energy charge rate in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

- (a) ECR for coal based and lignite fired stations:

$$\text{ECR} = \{(\text{SHR} - \text{SFC} \times \text{CVSF}) \times \text{LPPF} / (\text{CVPF} + \text{SFC} \times \text{LPSFi} + \text{LC} \times \text{LPL})\} \times 100 / (100 - \text{AUX})$$

- (b) Supplementary ECR for coal and lignite based thermal generating stations:

$$\text{Supplementary ECR} = (\Delta\text{ECR}) + [(\text{SRC} \times \text{LPR} / 10) / (100 - (\text{AUX}_n + \text{AUX}_{en}))]$$

- (c) For gas and liquid fuel based stations:

$$\text{ECR} = \text{SHR} \times \text{LPPF} \times 100 / \{(\text{CVPF}) \times (100 - \text{AUX})\}$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = (a) Weighted Average Gross calorific value of coal considering GCV as per Regulation 60, in kCal per kg for coal based stations less 85 Kcal/Kg on account of variation during storage at generating station;

(b) Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations;

(d) In the case of blending of fuel from different sources, the weighted average Gross calorific value of the primary fuel shall be arrived at in proportion to the blending ratio: CVSF = Calorific value of secondary fuel, in kCal per ml;

ECR = Energy charge rate, in Rupees per kWh sent out;

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

LC = Normative limestone consumption in kg per kWh;

LPL = Weighted average landed cost of limestone in Rupees per kg;

LPPF = Weighted average landed fuel cost of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to the blending ratio);

SFC = Normative Specific fuel oil consumption, in ml per kWh;

LPSFi = Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ml during the month;

(Δ ECR) = Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to ($AUX_n + AUX_{en}$) and ECR with normative auxiliary energy consumption as specified in these regulations;

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

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

Provided that the energy charge rate for a gas or liquid fuel based station shall be adjusted for open cycle operation based on certification of the Member Secretary of the respective Regional Power Committee during the month.

(4) In case of part or full use of an alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for the supply of contracted power on account of a shortage of fuel or optimization of economical operation through blending, the use of an alternative source of fuel supply shall be permitted to generating station up to a maximum of 6% blending by weight.

Provided that in such case, prior permission from beneficiaries shall not be a precondition, unless otherwise agreed specifically in the power purchase agreement:

Provided also that where a higher blending ratio than that specified under sub-clause (4) above

of this Regulation is required, prior consultation with the beneficiary shall be made at least three days in advance.

(5) Where biomass fuel is used for blending with coal, the landed cost of biomass fuel shall be worked out based on the delivered cost of biomass at the unloading point of the generating station, inclusive of taxes and duties as applicable. The energy charge rate of the blended fuel shall be worked out considering the consumption of biomass based on the blending ratio as specified by the Authority or the actual consumption of biomass, whichever is lower.

(6) The Commission, through specific tariff orders to be issued for each generating station, shall approve the energy charge rate at the start of the tariff period. The energy charge rate so approved shall be the base energy charge rate for the first year of the tariff period. The base energy charge rate for subsequent years shall be the energy charge computed after escalating the base energy charge rate by escalation rates for payment purposes as notified by the Commission from time to time under competitive bidding guidelines.

(7) The tariff structure as provided in Regulation 63 and Regulation 64 of these regulations may be adopted by the Department of Atomic Energy, Government of India, for the nuclear generating stations by specifying annual fixed cost (AFC), normative annual plant availability factor (NAPAF), installed capacity (IC), normative auxiliary energy consumption (AUX) and energy charge rate (ECR) for such stations.

65. Computation and Payment of Capacity Charge and Energy Charge for Hydro Generating Stations:

(1) The fixed cost of a hydro generating station shall be computed on an annual basis, based on norms specified under these regulations, and shall be recovered on a monthly basis under capacity charge (inclusive of incentive) and energy charge, which shall be payable by the beneficiaries in

proportion to their respective allocation in the saleable capacity of the generating station, i.e., in the capacity excluding the free power to the home State:

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge and energy charge payment during such period.

(2) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be:

$$AFC \times 0.5 \times NDM / NDY \times (PAFM / NAPAF) \text{ (in Rupees)}$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NAPAF = Normative plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percentage

(3) The PAFM shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \sum_{i=1}^N \frac{DC_i}{\{N \times IC \times (100 - AUX)\}} \%$$

Where

AUX = Normative auxiliary energy consumption in percentage

DC_i = Declared capacity (in ex-bus MW) for the 1st day of the month, which the station can deliver for at least three (3) hours, as certified by the nodal load dispatch centre after the day is over.

IC = Installed capacity (in MW) of the complete generating station

N = Number of days in the month

- (4) In addition to the AFC entitlement as computed above, the hydro generating station shall be allowed an incentive of up to 4% of the Capacity Charge approved for a given year which shall be billed monthly as per the following.

$$\text{Incentive} = (4\% \times \beta \times CC_y) / 12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC and shall range between 0 to 1.

CC_y = Capacity Charges for the Year.

- (5) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month, on the ex-bus basis, at the computed energy charge rate. The total energy charge payable to the generating company for a month shall be:

$$\text{Energy Charges} = (\text{Energy charge rate in Rs. / kWh}) \times \{ \text{Scheduled energy (ex-bus) for the month in kWh} \} \times (100 - \text{FEHS}) / 100$$

- (6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three decimal places based on the following formula, subject to the

provisions of clause (8) of this Regulation:

$$ECR = AFC \times 0.5 \times 10 / \{DE \times (100 - AUX) \times (100 - FEHS)\}$$

Where,

DE = Annual design energy specified for the hydro generating station, in MWh, subject to the provision in clause (7) below.

FEHS = Free energy for home State, in per cent, as mentioned in EXPLANATION-III under Regulation 76 of these regulations.

(7) In case the saleable scheduled energy (ex-bus) of a hydro generating station during a year is less than the saleable design energy (ex-bus) for reasons beyond the control of the generating station, the generating station may directly recover the shortfall in energy charges in six equal interest-free monthly instalments after adjusting for DSM Energy in the immediately following year and shall be subject to truing up at the end of the tariff period.

Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of four years on account of hydrology factor, the generating station shall approach the Central Electricity Authority with relevant hydrology data for revision of design energy of the station.

(8) Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2019-24, which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation.

(9) In case the energy charge rate (ECR) for a hydro generating station, computed as per clause (5) of this Regulation exceeds one hundred and twenty paise per kWh, and the actual saleable energy in

a year exceeds $\{DE \times (100 - AUX) \times (100 - FEHS) / 10000\}$ MWh, the energy charge for the energy in excess of the above shall be billed at one hundred and twenty paise per kWh only.

(10) In addition to the above, an incentive shall be payable to a ROR Hydro generating station @ 50 paise/ kWh corresponding to the saleable scheduled energy during peak hours of the day in excess of average saleable scheduled energy during the day (24 hours).

66. Computation and Payment of Capacity Charge and Energy Charge for Pumped Storage Hydro Generating Stations:

(1) The fixed cost of a pumped storage hydro generating station shall be computed on an annual basis, based on norms specified under these regulations, and recovered on a monthly basis as a capacity charge. The capacity charge shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station;

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge payment during such period.

(2) The capacity charge payable to a pumped storage hydro generating station for a calendar month shall be:

$(AFC \times NDM / NDY)$ (In Rupees), if actual Generation during the month is $\geq 75\%$ of the Pumping Energy consumed by the station during the month and $\{(AFC \times NDM / NDY) \times (\text{Actual Generation during the month during peak hours} / 75\% \text{ of the Pumping Energy consumed by the station during the month})\}$ (in Rupees)}, if actual Generation during the month is $< 75\%$ of the Pumping Energy consumed by the station during the month.

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NDM = Number of days in the month

NDY = Number of days in the year

Provided that there would be adjustments at the end of the year based on actual generation and actual pumping energy consumed by the station during the year.

(3) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary in excess of the design energy plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir, at a flat rate equal to the average energy charge rate of 20 paise per kWh, if any, during the calendar month, on ex power plant basis.

(4) Energy charge payable to the generating company for a month shall be:

$$= 0.20 \times \{ \text{Scheduled energy (ex-bus) for the month in kWh- (Design Energy for the month (DEm) + 75\% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month)} \} \times (100 - \text{FEHS}) / 100.$$

Where,

DEm = Design energy for the month specified for the hydro generating station, in MWh

FEHS = Free energy for home State, in per cent, as mentioned in EXPLANATION-III under Regulation 76 of these regulations, if any.

Provided that in case the Scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to

the higher elevation reservoir of the month, then the energy charges payable by the beneficiaries shall be zero.

(5) The generating company shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the reservoir levels of the upper elevation reservoir and lower elevation reservoir on an hourly basis. The generator shall be required to maximize the peak hour supplies with the available water, including the natural flow of water. In case it is established that the generator is deliberately or otherwise, without any valid reason, not pumping water from a lower elevation reservoir to a higher elevation during off-peak periods or not generating power to its potential or wasting the natural flow of water, the capacity charges of the day shall not be payable by the beneficiary. For this purpose, outages of the unit(s)/station, including planned outages and forced outages up to 15% in a year, shall be construed as the valid reason for not pumping water from the lower elevation reservoir to the higher elevation during an off-peak period or not generating power using the energy of pumped water or natural flow of water:

Provided that the total capacity charges recovered during the year shall be adjusted on a pro-rata basis in the following manner in the event of total machine outages in a year exceeding 15%:

$$(ACC)_{adj} = (ACC) R \times (100 - ATO) / 85$$

Where,

(ACC)_{adj} - Adjusted Annual Capacity Charges

(ACC) R - Annual Capacity Charges recovered

ATO - Total Outages in percentage for the year including forced and planned outages

Provided further that the generating station shall be required to declare its machine availability daily on day ahead basis for all the time blocks of the day in line with the scheduling procedure of Grid Code.

(6) The concerned Load Despatch Centre shall finalise the schedules for the hydro generating stations, in consultation with the beneficiaries, for optimal utilization of all the energy declared to be available, which shall be scheduled for all beneficiaries in proportion to their respective allocations in the generating station.

67. Computation and Payment of Transmission Charge for Inter-State Transmission System and Communication System:

(1) The fixed cost of the transmission system or communication system forming part of the transmission system shall be computed on an annual basis, in accordance with norms contained in these regulations, aggregated as appropriate, and recovered on a monthly basis as transmission charge from the users, who shall share these charges in the manner specified in clause (2) of this Regulation.

(2) The Transmission charge (inclusive of incentive) payable for a calendar month for the transmission system or part shall be computed for each region separately for the AC and DC system as under:

For AC system:

a) For $TAFM_n \leq 98.00\%$

$AFC \times (NDM_n/NDY) \times (TAFM_n/98.00\%)$

b) For $TAFM_n: 98.00\% < TAFM_n < 98.50\%$

$AFC \times (NDM_n/NDY) \times (1)$

c) For TAFM_n: 98.50% < TAFM_n ≤ 99.75%

$$AFC \times (NDM_n / NDY) \times (TAFM_n / 98.50\%)$$

d) For TAFM_n > 99.75%

$$AFC \times (NDM_n / NDY) \times (99.75\% / 98.50\%)$$

Where,

AFC = Annual Fixed Cost specified for the year in Rupees

NDM_n = Number of days in nth month

NDY = Number of days in the year

TAFM_n = Transmission System availability factor for the nth month, in percent computed in accordance with Appendix IV.

For HVDC bi-pole links and HVDC back-to-back Stations:

$$TC_1 = AFC \times (NDM_1 / NDY) \times (TAFM_1 / NATAF)$$

$$TC_2 = AFC \times (NDM_2 / NDY) \times (TAFM_2 / NATAF) - TC_1$$

$$TC_3 = AFC \times (NDM_3 / NDY) \times (TAFM_3 / NATAF) - (TC_1 + TC_2)$$

$$TC_4 = AFC \times (NDM_4 / NDY) \times (TAFM_4 / NATAF) - (TC_1 + TC_2 + TC_3)$$

.....

$$TC_{11} = AFC \times (NDM_{11} / NDY) \times (TAFM_{11} / NATAF) - (TC_1 + TC_2 + \dots + TC_{10})$$

$$TC_{12} = AFC \times (TAFY / NATAF) - (TC_1 + TC_2 + \dots + TC_{11});$$

If,

(i) TAFM: 95.00% < TAFM < 97.50%, then TAFM = NATAF;

- (ii) TAFM: $97.50\% \leq \text{TAFM} \leq 99.75\%$, then $\text{NATAF}=97.50\%$; and
- (iii) For $\text{TAFM} \geq 99.75\%$, then $\text{TAFM}=99.75\%$ and $\text{NATAF}= 97.50\%$.

Where,

TC_n = Transmission charges inclusive of incentive up to the nth month

AFC = Annual fixed cost specified for the year in rupees

NATAF = Normative Annual Transmission Availability Factor in percentage

NDM_n = No of days up to the end of the nth month of the financial year

NDY = No. of days in the year

TAFM_n = Transmission availability factor up to the end of the nth month of the year in percentage computed in accordance with Appendix -IV

TAFY = Transmission availability factor in per cent for the year.

(3) The transmission charges shall be calculated separately for part of the transmission system having different NATAF and aggregated thereafter, according to their sharing by the long term customers. The charges of the communication system shall be a part of the transmission charges and shall be shared by the long term customers.

68. **Deviation Charges:** (1) Variations between actual net injection and scheduled net injection for the generating stations, and variations between actual net drawl and scheduled net drawl for the beneficiaries shall be treated as their respective deviations and charges for such deviations shall be governed by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2022.

(2) The actual net deviation of every Generating Station and Beneficiary shall be metered on its periphery through special energy meters (SEMs) installed by the Central Transmission Utility (CTU), and computed in MWh for each 15-minute time block by the concerned Regional Load Despatch Centre.

CHAPTER - 12

NORMS OF OPERATION

69. **Recovery of Tariff and Incentive:** (1) Recovery of capacity charge, energy charge, supplementary capacity charge, supplementary energy charge, transmission charge and incentive by the generating company and the transmission licensee shall be based on the achievement of the operational norms specified in the Regulation 70 to Regulation 72 of these regulations.

(2) The Commission may on its own revise the norms of Station Heat Rate specified in Regulation 70(C) of these regulations in respect of any of the generating stations for which relaxed norms have been specified.

Norms of operation for thermal generating station

70. The norms of operation as given hereunder shall apply to thermal generating stations:

(A) **Normative Annual Plant Availability Factor (NAPAF)**

- (a) 85% for all thermal generating stations, except those covered under clauses (c), (c), (d) & (d)
- (b) 80% for coal and lignite based generating stations completing 30 years from COD as on 31.03.2024
- (c) For the following Gas based Thermal Generating Stations of NEEPCO:

Assam GPS	70%
Agartala GPS	85%
Tripura GPS	85%

- (d) Lignite fired Generating Stations using Circulatory Fluidized Bed Combustion (CFBC) Technology and Generating stations based on coal rejects:

1. First Three years from the date of commercial operation – 68.50%
2. After completion of three years of the date of commercial operation - 75%

(e) For following lignite fired thermal generating stations of NLC India Ltd.

1. TPS-II State-I and Stage-II : 80%
2. Barsingsar (CFBC) : 75%
3. TPS-II Expansion (CFBC) : 50%
4. TPS-1 Expansion : 80%
5. New Neyveli TPS : 80%

(B) **Normative Annual Plant Load Factor (NAPLF) for Incentive:**

- (a) 85% for all thermal generating stations, except for those covered under clause (b) below
- (b) 80% for coal and lignite based generating stations completing 30 years from COD as on 31.03.2024

(C) **Gross Station Heat Rate:**

(a) **Existing Thermal Generating Stations achieving COD before 1.4.2009**

- (i) For Coal-based Thermal Generating Stations other than those covered under clause (ii) below:

200/210/250 MW Sets	500 MW Sets (Sub-critical)
2,400kCal/kWh	2,375kCal/kWh

Note 1

In respect of 500 MW and above units where the boiler feed pumps are electrically operated, the gross station heat rate shall be 40 kCal/kWh lower than the gross station heat rate specified above.

Note 2

For the generating stations having combination of 200/210/250 MW sets and 500 MW and above sets, the normative gross station heat rate shall be the weighted average gross station heat rate of the combinations.

Note 3

The normative gross station heat rate above is exclusive of the compensation specified as per the Grid Code. The generating company shall, based on the unit loading factor, consider the compensation in addition to the normative gross heat rate above.

Note 4

The gross station heat rate for the unit capacity of less than 200 MW sets, shall be dealt with on a case-to-case basis.

(ii) For the following Thermal generating stations of NTPC Ltd:

Tanda TPS	2,750 kCal/kWh
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(iii) Lignite-fired Thermal Generating Stations: For lignite-fired thermal generating stations, except for TPS-I and TPS-II (Stage I & II) of NLC India Ltd, the gross station heat rates specified under sub-clause (i) for coal-based thermal generating stations shall be applied with correction, using multiplying factors as given below:

- (a) For lignite having 50% moisture: 1.10
- (b) For lignite having 40% moisture: 1.07
- (c) For lignite having 30% moisture: 1.04

For other values of moisture content, the multiplying factor shall be pro-rated for moisture content between 30-40% and 40-50% depending upon the rated values of the multiplying factor for the respective range given under sub-clauses (a) to (c) above.

- (iv) TPS-I , TPS-II (Stage I & II) & Barsingsar (2x125 MW) of NLC India Ltd:

TPS-II (Stg I & II)	: 2,880 kCal/kWh
TPS-1 (Expansion)	: 2,710 kCal/kWh

- (v) Open Cycle Gas Turbine/Combined Cycle Generating Stations: For the following gas-based thermal generating stations:

Name of generating station	Combined cycle (kCal/kWh)	Open Cycle (kCal/kWh)
Gandhar GPS	2,040	2,960
Kawas GPS	2,050	3,010
Anta GPS	2,075	3,010
Dadri GPS	2,000	3,010
Auraiya GPS	2,100	3,045
Faridabad GPS	1,975	2,900
Kayamkulam GPS	2,000	2,900
Assam GPS	2,600	3,578
Agartala GPS	2,600	3,578
Ratnagiri	1,820	2,641

- (b) **Thermal Generating Stations achieving COD on or after 1.4.2009:**

(i) For Coal-based and lignite-fired Thermal Generating Stations:

For 200/210/250 MW Sets. : 1.05 X Design Heat Rate (kCal/kWh)

For 500 MW Sets and above: 1.04 X Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero per cent make up, design coal and design cooling water temperature/back pressure.

Provided that the design heat rate shall not exceed the following maximum design, unit heat rates depending upon the pressure and temperature ratings of the units:

Pressure Rating (Kg/cm ²)	150	170	170
SHT/RHT (°C)	535/535	537/537	537/565
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1955	1950	1935
Min. Boiler Efficiency			
Sub-Bituminous Indian Coal (%)	86	86	86
Bituminous Imported Coal (%)	89	89	89

Pressure Rating (Kg/cm ²)	247	247	260	270	270
SHT/RHT (°C)	537/565	565/593	593/593	593/593	600/600
Type of BFP	Turbine Driven				
Max Turbine Heat Rate (kCal/kWh)	1900	1850	1814	1810	1790
Min. Boiler Efficiency (%)					

Sub-Bituminous Indian Coal (%)	86.00	86.00	86.00	86.50	86.50
Bituminous Imported Coal (%)	89.00	89.00	89.50	89.50	89.50

** For Lignite fired thermal generating station, the minimum boiler efficiency shall be 76% (for pulverised) and 80% (for fluidised bed) based boilers.*

Provided further that in case the pressure and temperature parameters of a unit are different from the above ratings, the maximum design heat rate of the unit of the nearest class shall be taken:

Provided also that where the heat rate of the unit has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the design heat rate of the unit shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that where the boiler efficiency is lower than 86% for Sub- bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% for Sub-bituminous Indian coal and bituminous imported coal, respectively, for computation of station heat rate:

Provided units based on a dry cooling system, the maximum turbine cycle heat rate shall be considered as per the actual design or 6% higher than the values given in the table above, whichever is lower;

Provided also that in the case of coal based generating station, if one or more generating units were declared under commercial operation prior to 1.4.2024, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2024 shall be lowest of the heat rate norms considered by the Commission during tariff period 2019-24 or those arrived at by above methodology or the norms as per the sub-clause (C)(a)(i) of this Regulation:

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using a factor for moisture content given in sub-clause (C)(a)(iii) of this Regulation:

Provided also that for Generating stations based on coal rejects, the Commission shall approve the Station Heat Rate on a case-to-case basis.

Note: In respect of generating units where the boiler feed pumps are electrically operated, the maximum design heat rate of the unit shall be 40 kCal/kWh lower than the maximum design heat rate of the unit specified above with turbine driven Boiler Feed Pump.

(ii) For the following Thermal generating stations of NTPC Ltd:

Kanti TPS	2,500 kCal/kWh
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(iii) For the following lignite generating stations of NLC India Ltd:

Barsingsar (2X125 MW)	2,525 kCal/kWh
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(c) For Gas-based/ Liquid based Thermal Generating Unit(s)/ Block(s) having COD on or after 1.4.2009:

For Natural Gas and RLNG= 1.050 X Design Heat Rate of the unit/block (kCal/kWh)

For Liquid Fuel=1.071 X Design Heat Rate of the unit/block for Liquid Fuel (kCal/kWh)

Where the Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR and at site ambient conditions, and the Design Heat Rate of a block shall mean the guaranteed heat

rate for a block at 100% MCR, site ambient conditions, zero per cent make up, design cooling water temperature/back pressure.

(d) The Gross Station Heat Rate norms as specified in sub-clauses (a) and (b) of this clause, in respect of the coal and lignite based generating stations or units thereof (except for the generating stations or units thereof for which relaxed norms have been specified) and commissioned till 31.3.2024 (before 2009 and after 2009) shall remain applicable for such generating stations or units thereof for the remaining operational life of the respective generating stations or units thereof.

(D) Secondary Fuel Oil Consumption:

- (a) For Coal-based generating stations: 0.50 ml/kWh
- (b) For Coal-based generating stations with front fired boilers: 1.00 ml/kWh
- (c) For Lignite-fired generating stations (Pulverised and CFBC): 1.0 ml/kWh
- (d) For Coal-based generating stations of DVC:

Mejia TPS (Unit 1 to 3)	1.00 ml/kWh
Mejia TPS (Unit 4)	1.00 ml/kWh

- (e) For Generating Stations based on Coal Rejects: 2.0 ml/kWh

(E) Auxiliary Energy Consumption:

- (a) For Coal-based generating stations except at (b) below:

S. No.	Generating Station	With Natural Draft cooling tower or without cooling tower
(i)	200/210/250 MW series	8.50%
(ii)	300/ 330/ 350/ 500 MW and above	
	Steam driven boiler feed pumps	5.25%
	Electrically driven boiler feed pumps	8.00%
(iii)	600 MW and above	
	Steam driven boiler feed pumps	5.25%
	Electrically driven boiler feed pumps	8.00%

Provided that for thermal generating stations with induced draft cooling towers and where tube-type coal mill is used, the norms shall be further increased by 0.5% and 0.8%, respectively:

Provided further that Additional Auxiliary Energy Consumption as follows shall be allowed for plants with Dry Cooling Systems:

Type of Dry Cooling System	(% of gross generation)
Direct cooling air cooled condensers with mechanical draft fans	1.0%
Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower	0.5%

Note: The auxiliary energy consumption for the unit capacity of less than 200 MW sets shall be dealt with on a case-to-case basis.

(b) For other Coal-based generating stations:

(i)	Tanda Thermal Power Station	12.00%
(ii)	Chandrapur TPS (2x250 MW) (DVC)	9.50%

(c) For Gas Turbine /Combined Cycle generating stations:

- (i) Combined Cycle : 2.75%
- (ii) Open Cycle : 1.00%

Provided that where the gas based generating station is using electric motor driven Gas Booster Compressor, the Auxiliary Energy Consumption in case of Combined Cycle mode shall be 3.30% (including the impact of air-cooled condensers for Steam Turbine Generators):

Provided further that an additional Auxiliary Energy Consumption of 0.35% shall be allowed for Combined Cycle Generating Stations having direct cooling air cooled condensers with mechanical draft fans.

(iii) Tripura CCPP : 3.50%

(iv) OTPC Palatana CCPP : 3.50%

(d) For Lignite-fired thermal generating stations:

(i) For all generating stations with 200 MW sets and above:

The auxiliary energy consumption norms shall be 0.5 percentage points more than the auxiliary energy consumption norms of coal-based generating stations at (E) (a) above.

Provided that for the lignite fired stations using CFBC technology, the auxiliary energy consumption norms shall be 1.5 percentage points more than the auxiliary energy consumption norms of coal-based generating stations at (E) (a) above.

(ii) For Barsingsar Generating station of NEC using CFBC technology: 12.50%

(iii) For TPS-I (Expansion) and TPS-II Stage-I&II of NLC India Ltd.:

TPS-II Stage-I and Stage-II	10.00%
TPS-II (Expansion)	12.50%

(e) For Generating Stations based on coal rejects: 10%

(f) Norms of Auxiliary energy consumption for the emission control system (AUX_{en}) of thermal generating stations:

Name of Technology	AUX _{en} (as % of gross generation)
(1) For reduction of emission of Sulphur dioxide:	
a) Wet Limestone based FGD system (without Gas to Gas heater)	1.0%
b) Lime Spray Dryer or Semi dry FGD System	1.0%
c) Dry Sorbent Injection System (using Sodium bicarbonate)	NIL
d) For CFBC Power plant (furnace injection)	NIL
e) Sea water based FGD system (without Gas to Gas heater)	1.00%
(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 a "Gas to Gas" heater, AUX_{en} specified above shall be increased by 0.20% of gross generation.

(F) Norms for consumption of reagent:

(1) The normative consumption of specific reagents for various technologies for the 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 the formula:

$$\frac{K \times \text{Normative heat rate (kcal/kWh)} \times \text{Sulphur content of coal (\%)} \text{ kg/kWh}}{\text{GCV of Coal (kcal/kg)}}$$

Where,

GCV = (a) Weighted Average Gross calorific value of coal in kCal per kg for coal based thermal generating stations computed in accordance with Regulation 60 of these regulations;

(b) Weighted Average Gross calorific value of lignite as received, in kCal per kg, as applicable for lignite based thermal generating stations:

Provided that the value of K shall be equivalent to 35.2 for units to comply with the SO₂ emission norm of 100/200 mg/Nm³ or 26.8 for units to comply with the SO₂ emission norm of 600 mg/Nm³;

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

(b) For Lime Spray Dryer or Semi-dry Flue Gas Desulphurisation (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 [6] g/kWh;

(c) For Dry Sorbent Injection System (using sodium bicarbonate): The specific consumption of sodium bicarbonate shall be 12 g 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:

$$[62.9 \times S \times \text{SHR} / \text{CVPF}]$$

Where

S = Sulphur content in percentage,

LP = Limestone Purity in percentage,

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

CVPF = (a) Weighted Average Gross calorific value of lignite as received, in kCal per kg as applicable for lignite based thermal generating stations;

(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 the reduction of emission of oxide of nitrogen shall be as below:

(a) For Selective Non-Catalytic Reduction (SNCR) System: The specific urea consumption of the SNCR system shall be 1.2 g per kWh at 100% purity of urea.

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

71. Norms of Operation for Hydro Generating Stations: The norms of operation as given hereunder shall apply to hydro generating stations:

(A) Normative Annual Plant Availability Factor (NAPAF): (1) The following normative annual plant availability factor (NAPAF) shall apply to hydro generating station:

(a) Storage and Pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt: 90%;

(b) In the case of storage and pondage type plants with head variation between full reservoir level and minimum draw down level is more than 8% and when plant availability is not affected by silt, the month-wise peaking capability as provided by the project authorities in the DPR (approved by CEA or the State Government) shall form the basis of fixation of NAPAF;

(c) Pondage type plants where plant availability is significantly affected by silt: 85%.

Run-of-river generating stations: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant.

(2) A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations.

- (3) A further allowance of 5% may be allowed for difficulties in North East Region.
- (4) Based on the above, the Normative annual plant availability factor (NAPAF) of the hydro generating stations already in operation shall be as follows: -

Station	Type of Plant	Plant Capacity No. of Units x MW	NAPAF (%)
THDC			
THDC Stage I	Storage	4x250	80
KHEP	Storage	4x100	68
NHPC			
Station	Type of Plant	Plant Capacity No. of Units x MW	NAPAF (%)
Bairasul	Pondage	3x60	90
Loktak	Pondage	3x35	88
Salal	ROR	6x115	75
Tanakpur	ROR	3x31.4	70
Chamera-I	Pondage	3x180	90
Uri I	ROR	4x120	80
Rangit	Pondage	3x20	90
Chamera-II	Pondage	3x100	90
Dhauliganga	Pondage	4x70	85
Dulhasti	Pondage	3x130	90
Teesta-V	Pondage	3x170	87
Sewa-II	Pondage	3x40	89
TLDP III	Pondage	4x33	80
Chamera III	Pondage	3x77	87
Chutak	ROR	4x11	48
Nimmo Bazgo	Pondage	3x15	70
Uri II	ROR	4x60	80
Parbati III	Pondage	4x130	45
TLDP IV	ROR	4x40	90
NHDC			
Indira Sagar	Storage	8x125	87
Omkareshwar	Pondage	8x65	90
NEEPCO			
Kopili I	Storage	4x50	69
Khandong	Storage	2x25	67
Kopili II	Storage	1x25	69
Doyang	Storage	3x25	65
Ranganadi	Pondage	3x135	88

Station	Type of Plant	Plant Capacity No. of Units x MW	NAPAF (%)
NTPC			
Koldam	Storage	4x200	90
SJVNL			
Nathpa Jhakri	Pondage	6x250	90
Rampur	Pondage	6x68.67	85
DVC			
Panchet	Storage	2x40	80
Tilaya	Storage	2x2	80
Maithon	Storage	3x20	80

(B) In the case of pumped storage hydro generating stations, the quantum of electricity required for pumping water from the down-stream reservoir to the up-stream reservoir shall be arranged by the beneficiaries duly taking into account the transmission and distribution losses up to the bus bar of the generating station. In return, beneficiaries shall be entitled to an equivalent energy of 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir from the generating station during peak hours, and the generating station shall be under obligation to supply such quantum of electricity during peak hours:

Provided that in the event of the beneficiaries failing to supply the desired level of energy during off-peak hours, there will be a pro-rata reduction in their energy entitlement from the station during peak hours:

Provided further that the beneficiaries may assign or surrender their share of capacity in the generating station, in part or in full, or the capacity may be reallocated by the Central Government, and in that event, the owner or assignee of the capacity share shall be responsible for arranging the equivalent energy to the generating station in off-peak hours, and be entitled to corresponding energy during peak hours in the same way as the original beneficiary was entitled.

(C) Auxiliary Energy Consumption (AEC):

Type of Station	AEC	
	Installed Capacity above 200 MW	Installed Capacity upto 200 MW
Surface		
Rotating Excitation	0.7%	0.7%
Static	1.0%	1.2%
Underground		
Rotating Excitation	0.9%	0.9%
Static	1.2%	1.3%

Norms of operation for transmission system

72. Normative Annual Transmission System Availability Factor (NATAF):

(a) For recovery of Annual Fixed Cost, NATAF shall be as under:

- (1) AC system: 98.00%;
- (2) HVDC bi-pole links 95.00% and HVDC back-to-back stations: 95.00%:

Provided that the normative annual transmission availability factor of the HVDC bi-pole links shall be 85% for the first twelve months from the date of commercial operation.

(b) For Incentive, NATAF shall be as under:

- (1) AC system: 98,50%;
- (2) HVDC bi-pole links and HVDC back-to-back Stations: 97.50%:

Provided that no Incentive shall be payable for availability beyond 99.75%:

Provided further that for AC system, actual outage hours shall be considered for computation of availability up to two tripping per year. After two tripping in a year, for every tripping, an additional 12 hours of outage shall be considered in addition to the actual outage hours:

Provided also that in case of an outage of a transmission element affecting evacuation of power from a generating station, outage hours shall be multiplied by a factor of 2.

73. Auxiliary Energy Consumption in the Sub-station

(1) AC System: The charges for auxiliary energy consumption in the AC sub-station for the purpose of air-conditioning, lighting and consumption in other equipment shall be borne by the transmission licensee and included in the normative operation and maintenance expenses.

(2) HVDC sub-station: For auxiliary energy consumption in HVDC sub-stations, the Central Government may allocate an appropriate share from one or more ISGS. The charges for such power shall be borne by the transmission licensee from the normative operation and maintenance expenses.

CHAPTER - 13

SCHEDULING, ACCOUNTING AND BILLING

74. **Scheduling:** The methodology for scheduling and dispatch for the generating station shall be as specified in the Grid Code.

75. **Metering and Accounting:** For metering and accounting, the provisions of the Grid Code shall be applicable.

76. **Billing and Payment of charges:** (1) Bills shall be raised for capacity charge and energy charge by the generating company and for transmission charge by the transmission licensee on a monthly basis in accordance with these regulations, and payments shall be made by the beneficiaries or the long term customers directly to the generating company or the transmission licensee, as the case may be:

EXPLANATION-I: The physical copy of the Bill in Original at the office of the Authorised Person of the beneficiary or long term customer, as the case may be, or the scanned copy of the Original Bill through the official email ID of the Authorised Signatory of the Generating Company or the Transmission Licensee, as the case may be, shall be recognized as a valid mode of presentation of Bill:

EXPLANATION-II: Authorized Signatory or Signatories (official designation only) shall be notified in advance by the Managing Director or Chief Executive Officer of the Company, and any change in the list of Authorised Signatories for the purpose shall be communicated in the same manner.

(2) Payment of the capacity charge for a thermal generating station shall be shared by the beneficiaries of the generating station as per their percentage shares for the month (inclusive of any

allocation out of the unallocated capacity) in the installed capacity of the generating station. Payment of capacity charge and energy charge for a hydro generating station shall be shared by the beneficiaries of the generating station in proportion to their shares (inclusive of any allocation out of the unallocated capacity) in the saleable capacity (to be determined after deducting the capacity corresponding to free energy to home State as per Note 3 herein.

EXPLANATION-I: Shares or allocations of each beneficiary in the total capacity of Central sector generating stations shall be as determined by the Central Government, inclusive of any allocation made out of the unallocated capacity. The shares shall be applied in percentages of installed capacity and shall normally remain constant for a month. Based on the decision of the Central Government, the changes in allocation shall be communicated by the Member-Secretary, Regional Power Committee in advance, at least three days prior to the beginning of a calendar month, except in case of an emergency call for an urgent change in allocations out of unallocated capacity. The total capacity share of a beneficiary would be the sum of its capacity share plus allocation out of the unallocated portion. In the absence of any specific allocation of unallocated power by the Central Government, the unallocated power shall be added to the allocated shares in the same proportion as the allocated shares.

EXPLANATION-II: The beneficiaries may propose surrendering part of their allocated firm share to other States within or outside the region. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the generating company with other States within or outside the region for such transfers, the shares of the beneficiaries may be re-allocated by the Central Government for a specific period (in complete months) from the beginning of a calendar month. When such re-allocations are made, the beneficiaries who surrender the share shall not be liable to pay capacity charges for the surrendered share. The capacity charges for the capacity

surrendered and reallocated as above shall be paid by the State(s) to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the beneficiaries of the generating station shall continue to pay the full capacity charges as per allocated capacity shares. Any such reallocation and its reversion shall be communicated to all concerned by the Member Secretary, Regional Power Committee in advance, at least three days prior to such reallocation or reversion taking effect.

EXPLANATION-III: FEHS = Free energy for home State, in per cent and shall be taken as 13% or actual, whichever is less.

Provided that in cases where the site of a hydro project is awarded to a developer, by the State Government by following a two-stage transparent process of bidding, the 'free energy' shall be taken as 13%, in addition to an energy corresponding to 100 units of electricity to be provided free of cost every month to every project affected family for a period of 10 years from the date of commercial operation of the generating station:

Provided further that the generating company shall submit a detailed quantification of energy corresponding to 100 units of electricity to be provided free of cost every month to every month to every project-affected family for a period of 10 years from the date of commercial operation.

77. **Recovery of Statutory Charges:** The generating company shall recover the statutory charges imposed by the State and Central Government, such as electricity duty and water cess, by considering normative parameters specified in these regulations. In case the electricity duty is applied to the auxiliary energy consumption, such amount of electricity duty shall apply to the normative auxiliary energy consumption of the generating station (excluding colony consumption) and apportioned to each of the beneficiaries in proportion to their scheduled dispatch during the month.

78. **Sharing of Transmission Charges:** (1) The sharing of transmission charges shall be governed by the Sharing Regulations.

(2) The charges determined under these regulations in relation to the communication system forming part of the transmission system shall be shared by the beneficiaries or long term customers in accordance with the Sharing Regulations:

Provided that charges determined under these regulations in relation to communication systems other than that of the central portion shall be shared by the beneficiaries in proportion to the capital cost belonging to respective beneficiaries.

79. **Rebate:** (1) For payment of bills of the generating company and the transmission licensee through letter of credit on presentation or through National Electronic Fund Transfer (NEFT) or Real Time Gross Settlement (RTGS) payment mode within a period of 5 days of presentation of bills by the generating company or the transmission licensee, a rebate of 1.50% shall be allowed.

Provided that in case a different Rebate mechanism is provided in the PPA, the same shall be governed by the provisions of the PPA.

Explanation: In case of computation of '5 days', the number of days shall be counted consecutively without considering any holiday. However, in case the last day or day is an official holiday, the 5th day for the purpose of Rebate shall be construed as the immediate succeeding working day (as per the official State Government's calendar, where the Office of the Authorised Signatory or Representative of the Beneficiary, for the purpose of receipt or acknowledgement of Bill is situated).

(2) Where payments are made on any day after 5 days and within a period of 30 days of presentation of bills by the generating company or the transmission licensee, a rebate of 1% shall be allowed.

80. **Late payment surcharge:** In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary or long term customer as the case may be, beyond a period of 45 days from the date of presentation of bills, a late payment surcharge as specified in the Ministry of Power – Electricity (Late Payment Surcharge and Related Matters) Rules, 2022 as amended from time to time shall be levied by the generating company or the transmission licensee, as the case may be.

Provided that in case a different LPS mechanism is provided in the PPA, the same shall be governed by the provisions of the PPA.

(2) Unless otherwise agreed by the parties, the charges payable by a beneficiary or long term customer shall be first adjusted towards a late payment surcharge on the outstanding charges and, thereafter, towards monthly charges billed by the generating company or the transmission licensee, as the case may be, starting from the longest overdue bill.

CHAPTER – 14

SHARING OF BENEFITS

81. **Sharing of gains due to variation in norms:** (1) The generating company or the transmission licensee shall work out gains based on the actual performance of applicable Controllable parameters as under:

- i) Station Heat Rate;
- ii) Secondary Fuel Oil Consumption; and
- iii) Auxiliary Energy Consumption.

(2) The financial gains by the generating company or the transmission licensee, as the case may be, on account of controllable parameters shall be shared between the generating company or transmission licensee and the beneficiaries or long term customers, as the case may be on an annual basis. The financial gains computed as per the following formulae in the case of generating stations other than hydro generating stations on account of operational parameters as shown in Clause (1) of this Regulation shall be shared in the ratio of 1:1 between the generating stations and beneficiaries.

$$\text{Net Gain} = (\text{ECRN} - \text{ECRA}) \times \text{Scheduled Generation}$$

Where,

ECRN = Normative Energy Charge Rate computed on the basis of norms specified for Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Oil consumption.

ECRA = Actual Energy Charge Rate computed on the basis of actual Station Heat Rate, actual Auxiliary Energy Consumption and actual Secondary Fuel Oil Consumption.

Provided that in the case of hydro generating stations, the net gain on account of Actual

Auxiliary Energy Consumption being less than the Normative Auxiliary Energy Consumption shall be computed as per the following formulae provided the saleable scheduled generation is more than the saleable design energy and shall be shared in the ratio of 1:1 between generating station and beneficiaries:

- (i) When saleable scheduled generation is more than saleable design energy on the basis of normative auxiliary energy consumption and less than or equal to saleable design energy on the basis of actual auxiliary energy consumption:

$$\text{Net gain (Million Rupees)} = [(\text{Saleable Scheduled generation in MUs}) - (\text{Saleable Design energy on the basis of normative auxiliary energy consumption in MUs})] \times [1.20 \text{ or ECR, whichever is lower}]$$

- (ii) When saleable scheduled generation is more than saleable design energy on the basis of actual auxiliary energy consumption:

$$\text{Net gain (Million Rupees)} = \{ \text{Saleable Scheduled generation in MUs} - [(\text{Saleable Scheduled Generation in MUs} \times (100 - \text{normative AEC in \%}) / (100 \text{ actual AEC in \%}))] \} \times [1.20 \text{ or ECR, whichever is lower}]$$

82. **Sharing of savings in interest due to re-financing or restructuring of loan :**(1) If re-financing or restructuring of loan by the generating company or the transmission licensee, as the case may be, results in net savings on interest after accounting for cost associated with such refinancing or restructuring, the same shall be shared between the generating company or the transmission licensee and the beneficiaries, as the case may be, in the ratio of 1:1.

(2) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for settlement of the

dispute:

Provided that the beneficiaries or the long term customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of the loan.

83. Sharing of gains referred to in Regulation 48(3)(e) and Regulation 49(1)(l) of Grid Code, unless specifically provided in the rules or the guidelines issued by the Central Government, shall be in the ratio of 1:1.

84. **Sharing of Non-Tariff Income:** The non-tariff net income in case of generating station and transmission system from rent of land or buildings, eco-tourism, sale of scrap, and advertisements shall be shared between the generating company or the transmission licensee and the beneficiaries or the long term customers, as the case may be, in the ratio of 1:1.

85. **Sharing of Clean Development Mechanism Benefits:** The proceeds of carbon credit from approved emission reduction projects under the Clean Development Mechanism shall be shared in the following manner:

(a) 100% of the gross proceeds on account of CDM to be retained by the project developer in the first year after the date of commercial operation of the generating station or the transmission system, as the case may be;

(b) In the second year, the share of the beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the generating company or the transmission licensee, as the case may be, and the beneficiaries.

86. **Sharing of income from other business of transmission licensee:** The income from other

business of the transmission licensee shall be shared with the long term customer in the manner as specified in the Central Electricity Regulatory Commission (Sharing of revenue derived from utilization of transmission assets for other business) Regulations, 2007.

CHAPTER 15

MISCELLANEOUS PROVISIONS

87. **Operational Norms to be ceiling norms:** Operational norms specified in these regulations are the ceiling norms and shall not preclude the generating company or the transmission licensee, as the case may be, and the beneficiaries and the long-term customers from agreeing to the improved norms and in case the improved norms are agreed to, such improved norms shall be applicable for determination of tariff.

88. **Deviation from ceiling tariff:** (1) The tariff determined in these regulations shall be a ceiling tariff. The generating company or the transmission licensee and the beneficiaries or the long-term customer, as the case may be, may mutually agree to charge a lower tariff.

(2) The generating company or the transmission licensee, may opt to charge a lower tariff for a period not exceeding the validity of these regulations on agreeing to deviation from operational parameters, reduction in operation and maintenance expenses, reduced return on equity and incentive specified in these regulations.

(3) If the generating company or the transmission licensee opts to charge a lower tariff for a period not exceeding the validity of these regulations on account of lower depreciation based on the requirement of repayment in such case, the unrecovered depreciation on account of reduction of depreciation by the generating company or the transmission licensee during useful life shall be allowed to be recovered after the useful life in these regulations.

- (4) The deviation from the ceiling tariff specified by the Commission, shall come into effect from the date agreed to by the generating company or the transmission licensee and the beneficiaries or the long-term customer, as the case may be.
- (5) The generating company and the beneficiaries of a generating station or the transmission licensee and the long term customer of the transmission system shall be required to approach the Commission for charging a lower tariff in accordance with clauses (1) to (3) above. The details of the accounts and the tariff actually charged under clauses (1) to (3) shall be submitted at the time of true up.
- (6) Where a generating company and its beneficiaries or a transmission licensee and its long-term customers have mutually agreed to charge a lower tariff in respect of a particular generating station or transmission system in terms of Clauses (1) to (3) of this Regulation, the said agreed tariff shall not be revised upwards at the time of truing up based on the capital cost and additional capital expenditures in accordance with these regulations:

Provided that where the trued up tariff is lower than the agreed tariff, the generating company or the transmission licensee shall charge such trued-up tariff only:

Provided further that the difference between the agreed tariff and the trued-up tariff shall be settled between the parties in accordance with Regulations 10(7) and 10(8) of these regulations.

89. **Deferred Tax liability with respect to the previous tariff period:** Deferred tax liabilities for the period up to 31st March 2009, whenever they materialise, shall be recoverable directly by the generating companies or transmission licensees from the then beneficiaries or long term customers, as the case may be. Deferred tax liabilities for the period arising from 1.4.2009 to 31.3.2024, if any, shall not be recoverable from the beneficiaries or the long term customers, as the case may be.

90. **Hedging of Foreign Exchange Rate Variation:** (1) The generating company or the

transmission licensee, as the case may be, may hedge foreign exchange exposure in respect of the interest and repayment of foreign currency loan taken for the generating station or the transmission system, in part or in full at their discretion.

(2) If the petitioner enters into hedging arrangement(s) based on its approved hedging policy, the petitioner shall communicate to the beneficiaries concerned, of entering into such arrangement(s) within thirty days.

(3) Every generating company and transmission licensee shall recover the cost of hedging of foreign exchange rate variation corresponding to the normative foreign debt, in the relevant year on a year-to-year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against foreign debt.

(4) To the extent the generating company or the transmission licensee is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant year shall be permissible, provided it is not attributable to the generating company or the transmission licensee or its suppliers or contractors.

91. **Award of Arbitration:** In cases where there is a liability with respect to capital works on account of award of arbitration having principal amount along with interest payment, the principal amount actually paid shall be capitalised.

Provided that any interest amount associated with the arbitration award and actually paid shall be recovered in instalments along with carrying cost at the rate specified under Regulation 10(7) and 10(8) of these Regulations.

Provided further that such number of instalments shall be decided by the Commission on a case-to-case basis depending upon the amount to be reimbursed.

92. **Recovery of the cost of hedging or Foreign Exchange Rate Variation (FERV):**

(1) Every generating company and the transmission licensee shall recover the cost of hedging and foreign exchange rate variation on a year-to-year basis as income or expense in the period in which it arises.

(2) Recovery of the cost of hedging or foreign exchange rate variation shall be made directly by the generating company or the transmission licensee, as the case may be, from the beneficiaries or the long term customers, as the case may be, without making any application before the Commission:

Provided that in case of any objections by the beneficiaries or the long term customers, as the case may be, to the amounts claimed on account of the cost of hedging or foreign exchange rate variation, the generating company or the transmission licensee, as the case may be, may make an appropriate application before the Commission for its decision.

93. **Approval Process of Non-ISTS Lines carrying Inter-State Power:**

(1) Existing intra-state transmission lines other than Natural ISTS lines shall be considered as ISTS systems;

Provided that these transmission lines are being used for evacuation and transfer of inter-state power on a regular basis as identified by CTU in consultation with the concerned RPC and RLDC;

Provided further that such transmission system is under operation and appropriate metering system is in place to record flow of power;

Provided further that a proper mechanism is in place for the maintenance of such a transmission system.

- (2) Existing Intra State lines which were planned as ISTS System shall also be considered as ISTS lines;

Provided that such lines have not been developed for the sole purpose of the beneficiary(ies) of a single State;

Provided further that such transmission system is under operation and appropriate metering system is in place to record flow of power;

Provided further that a proper mechanism is in place for the maintenance of such a transmission system.

- (3) CTU, in consultation with RLDC shall identify all such natural ISTS lines and non-ISTS lines which are utilized for ISTS power transfer after ascertaining that such nature of flow of power has become permanent.
- (4) No New ISTS lines shall henceforth be planned and developed by State Transmission Utility unless agreed by CTU in consultation with RPC and approved by the Ministry of Power.
- (5) New transmission lines which have been conceived as ISTS lines at the planning stage shall be considered as part of the ISTS system;

Provided that such lines have not been developed for the sole purpose of the beneficiary(ies) of a single State;

Provided further that such transmission system is under operation and appropriate metering system is in place to record flow of power;

Provided further that a proper mechanism is in place for the maintenance of such a transmission system.

(6) Tariff of all such ISTS lines shall be approved based on provisions of these Regulations, and the fixed charges of such system shall be allowed based on the availability certified by respective RPCs and shall be allowed to be recovered as per the mechanism specified in CERC (Sharing of Inter-State Transmission Charges and Losses), 2020.

94. **Application fee and publication expenses:** The following fees, charges and expenses shall be reimbursed directly by the beneficiary in the manner specified herein:

- (1) The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may at the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the long term customers, as the case may be.
- (2) The following fees and charges shall be reimbursed directly by the beneficiaries in proportion to their allocation in the generating stations or by the long term customers in proportion to their share in the inter-State transmission systems determined in accordance with the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2020, as amended from time to time.
- (3) Fees and charges paid by the generating companies and inter-State transmission licensees (including deemed inter-State transmission licensees) under the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations, 2009, as amended from time to time or any subsequent amendment thereof.
- (4) Licence fees paid by the inter-State transmission licensees (including the deemed inter-State transmission licensee) in terms of Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012.

(5) Licence fees paid by NHPC Ltd to the State Water Resources Development Authority, Jammu, in accordance with the provisions of the Jammu & Kashmir Water Resources (Regulations and Management) Act, 2010.

(6) The Commission may, for the reasons to be recorded in writing and after hearing the affected parties, allow reimbursement of any fee or expenses, as may be considered necessary.

95. **Special Provisions relating to NLC India Limited:** The tariff of the existing generating stations of NLC India Ltd, namely, TPS-II (Stage I & II) and TPS-I (Expansion), whose tariff for the tariff periods 2004-09, 2009-14 and 2014-19 has been determined by following the Net Fixed Assets approach, shall continue to be determined by adopting Net Fixed Assets approach.

96. **Special Provisions relating to Damodar Valley Corporation:** (1) Subject to clause (2), this Regulation shall apply to the determination of tariff of the projects owned by Damodar Valley Corporation (DVC).

(2) The following special provisions shall apply for the determination of tariff of the projects owned by DVC:

(i) Capital Cost: The expenditure allocated to the object 'power', in terms of sections 32 and 33 of the Damodar Valley Corporation Act, 1948, to the extent of its apportionment to generation and inter-state transmission, shall form the basis of capital cost for the purpose of determination of tariff:

Provided that the capital expenditure incurred on head office, regional offices, administrative and technical centres of DVC, after due prudence check, shall also form part of the capital cost.

(ii) Debt Equity Ratio: The debt-equity ratio of all projects of DVC commissioned prior to

01.01.1992 shall be 50:50, and that of the projects commissioned thereafter shall be 70:30.

(iii) Depreciation: The depreciation rate stipulated by the Comptroller and Auditor General of India in terms of section 40 of the Damodar Valley Corporation Act, 1948 shall be applied for the computation of depreciation of projects of DVC.

(iv) Funds under section 40 of the Damodar Valley Corporation Act, 1948 The Fund(s) established in terms of section 40 of the Damodar Valley Corporation Act, 1948 shall be considered as items of expenditure to be recovered through tariff.

(v) Expenses towards subsidiary activities as per Hon'ble Supreme Court Judgement in Civil Appeal No. 4289 of 2008.

97. **Special Provisions relating to BBMB and SSP:** The tariff of the generating station and the transmission system of Bhakra Beas Management Board (BBMB) and Sardar Sarovar Project (SSP) shall be determined after taking into consideration, the provisions of the Punjab Reorganization Act, 1956 and Narmada Water Scheme, 1980 under Section 6-A of the Inter-State Water Disputes Act, 1956, respectively.

98. **Special Provisions Relating to Certain Inter-State Generation Projects:** The tariff of the generating station and the transmission system of the Indira Sagar generation project and such other inter-state generation projects shall be determined on a case-to-case basis.

99. **Transmission Majoration Factor:** Transmission Majoration Factor admissible for the transmission projects executed through the JV route in terms of Regulation 410A of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2001 shall be available for a period of 25 years from the date of issue of the transmission licence.

100. **Public Procurement through Competitive Bidding:** The generating company for a specific

generating station or for an integrated mine or a transmission licensee shall procure equipment, work and services through a transparent process of competitive bidding.

Provided that under certain exceptional circumstances, equipment, works and services may be procured through other methods, as provided under general financial rules issued by the Government of India and applicable from time to time.

101. **Power to Relax:** The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.

102. **Power to Remove Difficulty:** If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations.

103. **Issue of *Suo-Moto* orders and practice directions:** The Commission may, from time to time, issue orders and practice directions in regard to the effective implementation of these regulations and matters incidental or ancillary thereto as the Commission may consider appropriate.

Appendix I
Depreciation Schedule

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%) SLM
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For cost of clearing the site	3.34%
(c)	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
a.	Plant & Machinery in generating stations	
(i)	Hydro electric	5.28%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%
(iii)	Diesel electric and gas plant	5.28%
b.	Cooling towers & circulating water systems	5.28%
c.	Hydraulic works forming part of the Hydro-generating stations	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
d.	Building & Civil Engineering works	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections, such as wooden structures	100.00%
(v)	Roads other than Kutcha roads	3.34%
(vi)	Others	3.34%
e.	Transformers, Kiosks, sub-station equipment & other fixed apparatus (including plant)	
(i)	Transformers, including foundations having a rating of 100 KVA and over	5.28%
(ii)	Others	5.28%

f.	Switchgear including cable connections	5.28%
g.	Lightning arrester	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%) SLM
h.	Batteries	9.50%
(i)	Underground cable, including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
i.	Overhead lines, including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%
(iv)	Lines on treated wood support	5.28%
j.	Meters	5.28%
k.	Self propelled vehicles	9.50%
l.	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring, including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
n.	Apparatus let on hire	
(i)	Other than motors	9.50%

(ii)	Motors	6.33%
o.	Communication equipment	
(i)	Radio and high frequency carrier system	15.00%
(ii)	Telephone lines and telephones	15.00%
(iii)	Fibre Optic/OPGW	5.28%
p.	I. T Equipment including software, SCADA System	15.00%
q.	Any other assets not covered above	5.28%

Note: Where the life of the particular asset is less than the useful life of the project, the useful life of such particular asset shall be considered as per the provisions of the Companies Act, 2013 and subsequent amendment thereto.

Appendix II
Depreciation Schedule for New Projects

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%) SLM
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For the cost of clearing the site	3.34%
I	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
a.	Plant & Machinery in generating stations	
(i)	Hydro electric	4.22%
(ii)	Steam electric NHRB & waste heat recovery boilers	4.22%
(iii)	Diesel electric and gas plant	4.22%
b.	Cooling towers & circulating water systems	4.22%
c.	Hydraulic works forming part of the Hydro-generating stations	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons	4.22%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	4.22%
d.	Building & Civil Engineering works	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections, such as wooden structures	100.00%
(v)	Roads other than Kutcha roads	3.34%
(vi)	Others	3.34%
e.	Transformers, Kiosks, sub-station equipment & other fixed apparatus (including plant)	
(i)	Transformers, including foundations having a rating of 100 KVA and over	4.22%
(ii)	Others	4.22%

f.	Switchgear, including cable connections	4.22%
g.	Lightning arrestor	
(i)	Station type	4.22%
(ii)	Pole type	4.22%
(iii)	Synchronous condenser	4.22%
Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%) SLM
h.	Batteries	9.50%
(i)	Underground cable, including joint boxes and disconnected boxes	4.22%
(ii)	Cable duct system	4.22%
i.	Overhead lines, including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	4.22%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	4.22%
(iii)	Lines on steel on reinforced concrete support	4.22%
(iv)	Lines on treated wood support	4.22%
j.	Meters	4.22%
k.	Self propelled vehicles	9.50%
l.	Air Conditioning Plants	
(i)	Static	4.22%
(ii)	Portable	9.50%
m.(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring, including fittings and apparatus	6.33%
(iv)	Street Light fittings	4.22%
n.	Apparatus let on hire	
(i)	Other than motors	9.50%

(ii)	Motors	6.33%
o.	Communication equipment	
(i)	Radio and high frequency carrier system	15.00%
(ii)	Telephone lines and telephones	15.00%
(iii)	Fibre Optic/OPGW	4.22%
p.	I. T Equipment including software, SCADA system	15.00%
q.	Any other assets not covered above	4.22%

Note: Where the life of the particular asset is less than the useful life of the project, the useful life of such particular asset shall be considered as per the provisions of the Companies Act, 2013 and subsequent amendment thereto

Appendix III

Depreciation Schedule for Integrated Mine

DEPRECIATION SCHEDULE FOR INTEGRATED MINE		
Sr No	Asset Particulars	Life in Years
1	Land Freehold@	999
2	Land Leasehold	&&&
3	Temporary erections	1
4	HEMM\$	8
5	Roads, bridges, culverts, helipads	25
6	Main Plant Buildings	30
7	Machinery other than HEMM	15
8	Water Supply, Drainage and sewerage	15
9	Furniture and Fixtures	15
10	Office equipment/s other than computers	15
11	Hospital equipment(s)	15
12	EDP, WP machines, SATCOM & communication equipment	15
13	Electrical installations	15
14	Self propelled vehicles	10
15	Computers, Software	6.33
16	Laboratory & workshop equipment	15
17	Mine Development Expenses and Evaluation and Exploration #	20 or life of mine, whichever is lower
18	Evaluation and Exploration#	20 or life of mine, whichever is lower
19	Others not covered above	15
*	Salvage Value shall be other than 5% for the following assets - a. IT Equipment, software Zero (0) b. Zero or as agreed with the state Government in case of land c. For specialized mining equipment as specified by the Ministry of Corporate affairs Mine Development expenses, Evaluation and Exploration Zero (0)	
@	Petitioner to submit if the Freehold Land is attached with any conditions for return. If yes submit the conditions and period after which the land is to be returned. In such a case, the land shall be depreciable based on such details.	
&&&	To be filled by petitioner, least of lease agreement/mine life/right to use period	
\$	List of individual HEMM with the cost of each HEMM be provided separately	
#	In a generic sense Mine Development Expenditure is the expenditure incurred to bring the mine n into usable condition after ensuring the economic viability and decision is taken by the Mine Owner to develop the mine. While filling under this head, details to the extent feasible are to be given separately. Evaluation and exploration expenditure is generally the expenditure incurred associated with finding the mineral by carrying out topographical, geological, geochemical and geophysical studies, exploratory drilling, trenching, sampling, expenditure for activities in relation to evaluation of technical feasibility and commercial viability, acquisition of rights to explore etc. While filling under this head, details to the extent feasible are to be given separately.	

Appendix-IV

Procedure for Calculation of Transmission System

Availability Factor for a Month

1. Transmission system availability factor for nth calendar month (“TAFPn”) shall be calculated by the respective transmission licensee, verified by the concerned Regional Load Dispatch Centre (RLDC) and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges. In the case of the AC system, transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system. In the case of the HVDC system, transmission System Availability shall be calculated on a consolidated basis for all inter-state HVDC systems.

2. Transmission system availability factor for nth calendar month (“TAFPn”) shall be calculated by considering the following:
 - i) **AC transmission lines:** Each circuit of AC transmission line shall be considered as one element;

 - ii) **Inter-Connecting Transformers (ICTs):** Each ICT bank (three single-phase transformers together) shall form one element;

 - iii) **Static VAR Compensator (SVC):** SVC, along with SVC transformer, shall form one element;

 - iv) **Bus Reactors or Switchable line reactors:** Each Bus Reactors or Switchable line reactors shall be considered as one element;

 - v) **HVDC Bi-pole links:** Each pole of the HVDC link, along with associated equipment at both ends, shall be considered as one element;

 - vi) **HVDC back-to-back station:** Each block of the HVDC back-to-back station shall be considered as one element. If the associated AC line (necessary for the transfer of inter-regional power through the HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered unavailable;

vii) **Static Synchronous Compensation (“STATCOM”)**: Each STATCOM shall be considered as a separate element.

3. The Availability of the AC and HVDC portion of the Transmission system shall be calculated by considering each category of transmission elements as under:

TAFMn (in %) for AC system:

$$= \frac{o \times AV_o + (p \times AV_p) + (q \times AV_q) + (r \times AV_r) + (u \times AV_u)}{(o + p + q + r + u)} \times 100$$

Where,

- o = Total number of AC lines.
- AV_o = Availability of o number of AC lines
- p = Total number of bus reactors/switchable line reactors
- AV_q = Total actual operated capacity of yth HVDC back-to-back station block
- R = Total rated capacity of yth HVDC back-to-back station block
- AV_r = Availability of yth HVDC back-to-back station block
- U = Total no of HVDC poles
- AV_u = Total no of HVDC Back to Back blocks

TAFMn (in %) for HVDC System:

$$= \frac{\sum_{x=1}^s C_{xbp} (act) \times AV_{xbp} + \sum_{y=1}^t C_y (act)_{btb} \times AV_{ybtb}}{\sum_{x=1}^s C_{xbp} + \sum_{y=1}^t C_y_{btb}} \times 100$$

Where

- Cx_{bp}(act) = Total actual operated capacity of xth HVDC pole
- Cx_{bp} = Total rated capacity of xth HVDC pole
- AVx_{bp} = Availability of xth HVDC pole

- Cy_{btb}(act) = Total actual operated capacity of yth HVDC back-to-back station block

- Cy_{btb} = Total rated capacity of yth HVDC back-to-back station block
- AVy_{btb} = Availability of yth HVDC back-to-back station block

- s = Total no of HVDC poles

- t = Total no of HVDC Back to Back blocks

3. The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of the Availability of each category of the transmission elements are as per **Appendix-V**. The weightage factor for each category of transmission elements shall be considered asunder:

- (a) For each circuit of the AC line – The number of sub-conductors in the line multiplied by ckt-km;
- (b) For each HVDC pole- The rated MW capacity x ckt-km;
- (c) For each ICT bank – The rated MVA capacity;
- (d) For SVC- The rated MVAR capacity (inductive and capacitive);
- (e) For Bus Reactor/switchable line reactors – The rated MVAR capacity;
- (f) For HVDC back-to-back stations connecting two Regional grids- Rated MW capacity of each block; and
- (g) For STATCOM – Total rated MVAR Capacity.

4. The transmission elements under outage due to the following reasons shall be deemed to be available:

- i. Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in an existing system approved

by the Commission. If the other transmission scheme belongs to the transmission licensee, the Member Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved. In case of a dispute regarding deemed availability, the matter may be referred to the Chairperson, CEA, within 30 days.

- ii. Switching off of a transmission line to restrict over-voltage and manual tripping of switched reactors as per the directions of the concerned RLDC.
- iii. Shut down of a transmission line due to the Project(s) of NHAI, Railways and Border Road Organization, including for shifting or modification of such transmission line. Member Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved;

Provided that such deemed availability shall be considered only for the period for which DICs are not affected by the shutdown of such transmission line.

5. For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

- i) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by the Member Secretary, RPC, and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;
- ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in a substation or bays owned by another agency causing an outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc., due to grid disturbance. However, if the element

is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration;

iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii) of this clause shall be declared as under:

- a. Maximum up to one month by the Member Secretary, RPC;
- b. Beyond one month and up to three months after the decision at RPC;
- c. Beyond three months by the Commission for which the transmission license shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.

6. Time frame for certification of transmission system availability: (1) The following schedule shall be followed for certification of availability by the Member Secretary of the concerned RPC:

- Submission of outage data by Transmission Licensees to RLDC/ constituents
 - By the 5th of the following month;
- Review of the outage data by RLDC / constituents and forward the same to respective RPC – by 20th of the month;
- Issue of availability certificate by respective RPC – by the 3rd of the next month.

Appendix-V

FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

For AC transmission system

$$AV_o(\text{Availability of } o \text{ no. of AC lines}) = \frac{\sum_{i=1}^o W_i(T_i - TN_{Ai})/T_i}{\sum_{i=1}^o W_i}$$

$$AV_q(\text{Availability of } q \text{ no. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - TN_{Ak})/T_k}{\sum_{k=1}^q W_k}$$

$$AV_r(\text{Availability of } r \text{ no. of SVCs}) = \frac{\sum_{l=1}^{r-1} W_l(T_l - TN_{Al})/T_l}{\sum_{l=1}^r W_l}$$

$$AV_p(\text{Availability of } p \text{ no. of Switched Bus reactors}) = \frac{\sum_{m=1}^p W_m(T_m - TN_{Am})/T_m}{\sum_{m=1}^p W_m}$$

$$AV_u(\text{Availability of } u \text{ no. of STATCOMs}) = \frac{\sum_{n=1}^u W_n(T_n - TN_{An})/T_n}{\sum_{n=1}^u W_n}$$

$$AV_{x_{bp}}(\text{Availability of an individual HVDC pole}) = \frac{(T_x - TN)}{T_x}$$

$AV_{y_{btb}}$ (Availability of an individual HVDC

$$\text{Back-to-back Blocks}) = \frac{(T_y - TN_{Ay})}{T_y}$$

For the HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months: [(AV_{xbp} or AV_{ybtb})x95%/85%], subject to a ceiling of 95%.

Where,

o	=	Total number of AC lines;
AVo	=	Availability of o number of AC lines;
p	=	Total number of bus reactors/switchable line reactors;
AVp	=	Availability of p number of bus reactors/switchable line reactors;
q	=	Total number of ICTs;
AVq	=	Availability of q number of ICTs;
r	=	Total number of SVCs;
AVr	=	Availability of r number of SVCs;.
U	=	Total number of STATCOM;
AVu	=	Availability of u number of STATCOMs;
Wi	=	Weightage factor for <i>i</i> th transmission line;
Wk	=	Weightage factor for <i>k</i> th ICT;
Wl	=	Weightage factors for inductive & capacitive operation of <i>l</i> th SVC;
Wm	=	Weightage factor for <i>m</i> th bus reactor;
Wn	=	Weightage factor for <i>n</i> th STATCOM.
Ti, , Tk, Tl, ,	=	The total hours of <i>i</i> th AC line, <i>k</i> th ICT, <i>l</i> th SVC, <i>m</i> th Switched Bus Reactor
Tm, Tn, Tx, Ty	=	& <i>n</i> th STATCOM, <i>x</i> th HVDC pole, <i>y</i> th HVDC back-to-back blocks during the period under consideration (excluding time period for outages not attributed to transmission licensee for the reasons given in Para 5 of the procedure)
T _{NAi} ,T _{NAk}	=	The non-availability hours (excluding the time period for outages not T _{NAi} , T _{NAm} , attributable to transmission licensee taken as deemed availability as T _{NAi} , T _{NAk} , T _{NAx} , T _{NAy} per Para 5 of the procedure) for <i>i</i> th AC line, <i>k</i> th ICT, <i>l</i> th SVC , <i>m</i> th Switched Bus Reactor, <i>n</i> th STATCOM, <i>x</i> th HVDC pole and <i>y</i> th HVDC back-to-back block.

**MODIFIED MODEL
FUEL SUPPLY AGREEMENT
BETWEEN
MAHANADI COALFIELDS LIMITED
AND
HINDUJA NATIONAL POWER CORPN. LIMITED
(2X520 MW)**

<i>Particulars</i>	<i>Quantity(MT)</i>
<i>Total LOA Quantity</i>	4.624
<i>Quantity for which Long term PPA furnished(ACQ) including admissible quantity for transmission loss and auxiliary consumption</i>	4.624
<i>Quantity for which long term PPA not furnished (inoperative ACQ)</i>	Not Applicable

[26th AUGUST 2013]

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FUEL SUPPLY AGREEMENT
BETWEEN
MAHANADI COALFIELDS LIMITED
AND
HINDUJA NATIONAL POWER CORPORATION LIMITED

This Agreement is made on this 26th day of August 2013 between **Mahanadi Coalfields Limited**, a company registered under the Companies Act, 1956 and having its registered office at **PO: Jagriti Vihar, Burla-768020, Sambalpur, Odisha** hereinafter called the "Seller" (which expression shall unless excluded by or repugnant to the subject or context, include its legal representatives, successors and permitted assigns) of the one part,

AND

M/s Hinduja National Power Corporation Limited, a company registered under the Companies Act, 1956 having its registered office at **C/o. Gulf Oil Corporation Limited, Post Bag No.1, Kukatpally, Sanathnagar I.E., Hyderabad- 500018** hereinafter called the "Purchaser" (which term shall unless excluded or repugnant to the subject or context include its legal representatives, successors and permitted assigns) of the other part.

Whereas the Purchaser was issued a Letter of Assurance (LOA) dated 6th May 2009 Reference No. **MCL/GM/S&M/LOA/Hinduja National Power Corpn./F- /2009/552** and amendment vide letter no. **MCL/CGM/S&M/LOA/Hinduja National Power Corpn./F- /2009/3061** dated 23rd September 2009 the Purchaser has achieved the milestones as setout in the Annexure 1 of the LOA and fulfilled other conditions as stipulated under the LOA

Or

Model FSA – PPU (New) – Nov.12 modified upto 08.08.2013 (CIL letter.no.CIL:S&M:CMO:47252(NewPol):626 dated 08.08.2013)

Ais



Whereas the Purchaser has been granted linkage of Coal by Standing Linkage Committee – Long Term (SLC- LT) [*Delete above paragraph in such case*].

Whereas the Purchaser has requested the Seller for supply of Coal to their Vizag TPP of 2x520 MW (Enhancement of capacity from 2x500 MW to 2x520 MW approved in SLC (LT) meeting held on 18th April 2011) located at Vill. Pallavalasa, Dist. Visakhapatnam, Andhra Pradesh and the Seller has agreed to make such supplies on the terms and conditions set out hereafter, and

Whereas the Purchaser has entered into or is yet to enter into long term Power Purchase Agreements (PPA) either directly with Distribution Companies (DISCOMs) or through Power Trading Company(ies) (PTC) who has / have signed back to back PPA(s) (long-term) with DISCOMs and have commissioned or would get commissioned after 31.3.2009 and on or before 31st March 2015,

And

Whereas, the Purchaser has not any direct / indirect interest in any manner as associate or group company with any entity who has been allotted coal block in India for end use as stipulated in clause 4.2 with further reinforcement by Schedule-I in accordance with guidelines/policies of the Government of India relating to Letter of Assurance/ Allocation of coal on tapering basis,

And

Whereas, the Purchaser gives a self-declaration that no coal block(s) has/have been allotted for the Power Plant(s) covered under this Agreement and even if coal block(s) has/have been allotted, such coal block(s) has/have not been allotted as source(s) of coal supplies for the power plant(s) covered under this Agreement. The Purchaser shall further declare that there has been no change in the ownership pattern of the Purchaser since the time of issue of Letter of Assurance (LoA) till the time of signing of this Agreement.

And

Whereas, an Fuel Supply Agreement was earlier executed between Seller and Purchaser on 4th August 2011 and whereas CIL vide letter no. CIL/S&m/CMO/47252 (New Pol)/626 dated 8th August 2013 have advised to modify FSA(s) of all post 2009 plants including those who has/have already signed FSA(s). Hence, this FSA is executed.

Now, therefore, in consideration of the agreement and covenants hereafter set forth and intending to be legally enforceable, the Seller and the Purchaser (each individually a Party hereto and collectively the Parties) hereby covenant and agree as follows:

1.0 DEFINITIONS & RULES OF INTERPRETATION:

1.1 DEFINITIONS:

- a) **"Agreement"** means this Coal supply agreement including all its Schedules, Annexure and attachments and subsequent amendments as may be issued in accordance with the terms and conditions hereof and it shall supersede and exclude any previous arrangement, understanding or commitment that the Seller may have had with the Purchaser.
- b) **"Annual Contracted Quantity" or "ACQ"** shall have the meaning as ascribed to it in Clause 4.1.
- c) **"Applicable Laws"** means all laws, brought into force and effect by the Government of India ("GoI") or the State Government including rules, regulations and notifications made there under, and judgments, decrees, injunctions, writs and orders of any court of record,

Model FSA – PPU (New) – Nov.12 modified upto 08.08.2013 (CIL letter.no.CIL:S&M:CMO:47252(NewPol):626 dated 08.08.2013)

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applicable to either Seller/CIL or the Purchaser, their obligations or this Agreement from time to time.

- d) **"As Delivered Price of Coal"** shall have the meaning ascribed to it in Clause 9.
- e) **"Base Price"** shall mean, in relation to a Declared Grade [as defined at 1.1(s)] of Coal produced by Seller, the Pithead price notified from time to time by CIL or Seller, as the case may be; and in relation to Imported Coal, wherever applicable, shall mean its landed cost till the Delivery Point and service charges intimated by CIL or the Seller, as the case may be.
- In the event the Sellers supply coal from sources, notified by Seller on cost plus basis, cost plus basis prices shall be applicable.
- f) **"Business Day"** shall mean each Monday, Tuesday, Wednesday, Thursday, Friday and Saturday that is not declared a holiday in the State of Odisha.
- g) **"Coal"** means non-coking as well as coking coal, produced by the seller and categorized into different classes, GCV bands, grades and sizes, as per the notification/order issued for such purpose by Government of India(GoI)/CIL/ Seller and shall, where the context so requires, include Imported Coal. For the avoidance of any doubt, Coal shall also include the middlings arising out of washing of coking and non-coking coal.
- h) **"Condition Precedent Period"** shall have meaning ascribed to it under Clause 2.8.3.1.
- i) **"CIL"** means Coal India Limited, the holding company of the Seller, having its registered office at 10, Netaji Subhash Road, Kolkata-700 001, India, and having authorities to enter into any agreement/side agreements, supplementary to this agreement for ensuring supply of coal from import of coal or other alternative sources.
- j) **"Coal Distribution System"** of the Seller would include any distribution system in force including directions thereon from the Government issued from time to time.
- k) **"Colliery Loading Point"** shall mean
- (i) Silo, or
 - (ii) Mid point for wharf wall loading at the colliery, or
 - (iii) Truck loading point, or
 - (iv) Ropeways loading point, or
 - (v) Transfer point to the customer's belt conveyor etc, as the case may be.
- l) **"Declared Grade"** means the particular grade(s) under different categories [as defined at 1.1(s)] of Coal mined from any seam or section of a seam in the Seller's collieries from which Coal is produced and supplied under this Agreement, as declared by CIL or the Seller.
- m) **"Delivery Point"** means any of the colliery sidings or Colliery Loading Points, as the case may be, in the designated Coal mine of the Seller as per Schedule I, and/ or the location(s)/ port(s) identified by the Seller at which the Seller delivers Imported Coal in accordance with the terms of this Agreement.
- n) **DISCOM** means the "Distribution Licensee" who is authorized to operate and maintain a distribution system for selling electricity to the consumers in his area of supply at tariffs regulated by the State / Central Regulatory Authority, whichever is applicable.

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- o) **Effective Date**” shall mean the date of occurrence of the last of the events specified under clause 2.8.3.2 or 2.8.3.3.
- p) **“First Delivery Date”** shall have the meaning ascribed to it in Clause 2.9.
- q) **“Equilibrated Basis”** means determination/computation of various quality parameters such as but not limited to ash, volatile matter, fixed carbon, Gross Calorific Value etc. expressed at Equilibrated Moisture level determined at 60% relative humidity (RH) and 40 degree Celsius (°C).
- r) **“Equilibrated Moisture”** means moisture content, as determined after equilibrating at 60% relative humidity (RH) and 40 degree Celsius as per the relevant provisions (relating to determination of equilibrated moisture at 60% RH and 40 degree Celsius) of BIS 1350 of 1959 or amendment thereof.
- s) **“Grade”** means the grade / class in which the coking and non-coking Coal is categorised and/or to be categorised in terms and in accordance with the relevant notification issued by the Seller and/or by Govt. of India and published in the public domain and/or the Gazette of India, as applicable. The basis of grading for different categories of coal are as under :
 - i. Non Coking Coal : based on GCV bands
 - ii. Coking Coal : based on Ash percentage
 - iii. Semi Coking Coal : based on (Ash + Moisture) percentage
- t) **“Imported Coal”** shall mean non-coking as well as coking coal, sourced internationally.
- u) **“Independent Engineer”** shall mean a consulting engineering firm or group, acceptable to the Seller, having necessary expertise to undertake the services or activities as mentioned under Clause 2.8.2.2.
- v) **Importing Agency:** It may be the holding company of the Seller i.e. CIL or any other agency (ies) appointed for supply of imported coal on behalf of the Seller.
- w) **“IS”** means the standard specifications issued by the Bureau of Indian Standards (BIS).
- x) **“Kilo Calorie”** shall mean the amount of heat required to raise the temperature of one kilogram (1 Kg.) of pure water at fifteen degrees Celsius (15°C), by one degree Celsius (1°C).
- y) **“Level of Delivery”** shall have the meaning ascribed to it in Clause 4.7.
- z) **“Level of Lifting”** shall have the meaning ascribed to it in Clause 4.8.
- aa) **“Merry Go Round”** or **“MGR”** shall mean the Purchaser’s captive rail transportation system for transportation of Coal.
- bb) **“Month”** shall mean a calendar month.
- cc) **“Party”** means either the Seller or the Purchaser, and **“Parties”** mean a joint reference to the Seller and the Purchaser.
- dd) **“Interest Rate”** shall mean the repo rate of Reserve Bank of India (RBI) as applicable on the due date of payment by the Purchaser plus 3%(three).
- ee) **“Performance Incentive”** shall have the meaning ascribed to it in Clause 4.12.

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ff) "Pithead" shall mean the following any of the following as the context may admit :

In case of an underground Coalmine, Pithead shall mean the point of entry into the mine on the surface of coal mine at the ground level and would be a place or point distinct from Delivery Point ;

In case of an open-cast Coalmine, Pithead shall mean the exit point of Coal on surface (mouth/entry of the main access trench or an auxiliary access trench). In case of open-cast mines with more than one exit points of Coal, there will be as many 'Pitheads' and will apply respectively to the amount of Coal egressing from a particular exit point. The distance of transportation on surface from the Pithead (mouth of the main access trench or an auxiliary access trench) to the Colliery Loading Point shall be measured along the route of Coal transportation.

- gg) "PPA" (Long Term) means the Power Purchase Agreement between the Power Generating Source and the power procurer(s), i.e. DISCOM(s) either directly or through PTC(s) who has/have signed back to back PPA(s) with DISCOMs for a period of 7 years and above. However, the same shall not be applicable for the portion which is sold under market driven price.
- hh) "Purchaser's Container" means the Railway wagons and/or trucks placed f on behalf of the Purchaser and/or receiving hopper, bunker, transfer point owned by the Purchaser from where Coal is moved by the Purchaser directly to its Power Station by belt conveyor.
- ii) "Quarterly Quantity" or "QQ" shall have the meaning ascribed to it in Clause 4.4.
- jj) "Seller's Financial Closure" shall mean the date on which execution of all the loan agreements, notes, indentures, security agreements, letters of credit and any other documents relating to the financing of the coal block have become effective and the Seller has immediate access to such funding with respect to development and operation of the coal block identified in Schedule I to this Agreement.
- kk) "Signature Date" shall mean the Date of signing of this Agreement by both Parties.
- ll) "Surface Moisture" means the moisture content present in Coal that is derived as the difference between Total Moisture and Equilibrated Moisture, and expressed in percentage terms.
- mm) "Total Moisture" means the total moisture content (including surface moisture) expressed as percentage present in Coal and determined on as delivered basis in pursuance to IS.
- nn) "Unloading Point" means the place/point at the Purchaser's Power Station end at which Coal from/through the Purchaser's Container is received/ unloaded.
- oo) "Gross Calorific Value" or "GCV" means the heat value determined in any calibrated combustion Bomb Calorimeter, in accordance with the procedure laid down in IS: 1350 (Part-II) 1970 dated April 1971 or any subsequent revision thereof and result reported on equilibrated basis at 40 Degree Celsius and 60% Relative Humidity.
- pp) "Weights and Measures Standards" mean the standards, as prescribed under the Standards of Weights and Measures Act, 1976 and amendments thereof.

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qq) "Year" means the financial year of the Seller, commencing on April 1st and ending on the following March 31st and "Quarter" means the respective three-monthly periods, namely April to June, July to September, and so on.

rr) "Power Trading Company (PTC)": A Power Trading Company is a trading licensee under the Electricity Act 2003 and having Trading License approved by the State Electricity Regulatory Commission under Section 86(1)(b) of the Electricity Act 2003.

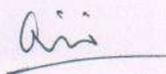
1.2 RULES OF INTERPRETATION :

- a) A reference to this Agreement includes all schedules and annexures to this Agreement;
- b) A reference to any legislation or legislative provision includes any statutory modification or re-enactment of, or legislative provision substituted for, and any subordinated legislation issued under, that legislation or legislative provision;
- c) Headings do not affect the interpretation of this Agreement;
- d) A reference to Rs., INR or Rupees is to the lawful currency of the Republic of India unless specified otherwise;
- e) A reference to an agreement, deed, instrument or other document include the same as amended, novated, supplemented, varied or replaced from time to time; and
- f) The expressions "including", "includes" and "include" have the meaning as if followed by "without limitation";
- g) Words imparting the singular only also include plural and vice-versa where the context so requires;
- h) The expression "writing" or "written" shall include communications by facsimile and letter;
- i) If any definition in Clause 1.1 is a substantive provision conferring a right or imposing an obligation on any Party, effect shall be given to it as if it were a substantive provision in the body of this Agreement.

2.0 PERIOD OF AGREEMENT:

- 2.1 This Agreement shall come into force on the "Effective Date".
- 2.2 This Agreement shall, unless terminated in accordance with the terms hereof, remain in force till the end of twenty (20) years from the Effective Date or the Life of the Power Plant, whichever is earlier.
- 2.3 After completion of five (5) years from the Effective Date, either Party may, by prior written notice to the other Party of period not less than thirty (30) days, seek a review of this Agreement.
- 2.4 Notwithstanding the provisions of Clause 2.2 above, in the event of any change in the Grade structure of Coal, such changed Grade structure shall be binding and complied with by both the Parties. The Seller shall within fifteen (15) days of introduction of such change provide a written notice to the Purchaser calling for a joint review of such provisions of this Agreement on which such change in the Grade structure has a bearing.

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and upon such joint review, this Agreement shall be duly amended in writing to bring it in full conformity with such change.

- 2.5 In the event, the Parties are unable to arrive at a mutually agreed position with respect to the subject matter of review in terms of Clause 2.3 within a period of three (3) months from expiry of each five (5) year term, the Parties shall refer the matter to the Govt of India and until a decision from the Government of India is received, the Agreement shall continue to be in force. The decision of the Govt. of India on the subject matter shall be final and binding on both the Parties.
- 2.6 (i) In the event of any material change in the Coal distribution system of the Seller due to a Government directive/ notification, at any time after the execution of this Agreement, the Seller shall within seven (7) days of introduction of such change provide a written notice to the Purchaser calling for a joint review. If the Parties are unable to arrive at a mutually agreed position with respect to the subject matter of review, within a period of thirty (30) days from the date of notice the Parties shall refer the matter to Govt. of India for a decision.
- (ii) In terms of the Presidential Directives dated 17-7-2013 the Seller shall have the right to refer the FSA to the Ministry of Coal, Govt. of India for review of the actual supply schedule as and when FSA for 60,000 MW of plant capacity in aggregate becomes eligible for drawing coal as per FSA.
- (iii) Notwithstanding the provision contained in any other clauses of this agreement, the FSA shall not be effective if the Plant is not commissioned by March, 2015 (with a cushion of further three months).
- 2.7 On completion of twenty (20) years from the Effective Date, or earlier in case of life of the Plant is less than twenty years this Agreement shall expire unless both the Parties mutually agree in writing to extend the Agreement, on the same or such terms as may be agreed upon by the Parties.

2.8 Condition Precedent (CP)

The rights and obligations of the Parties under this Agreement are subject to the satisfaction in full of the Conditions Precedent provided under Clause 2.8.1 and Clause 2.8.2 within the Condition Precedent Period unless the same have been waived in accordance with this Agreement.

2.8.1 Seller's Condition Precedent :

- 2.8.1.1 In respect of supply of Imported Coal :** the Seller shall have (i) acquired a definitive right under a coal import agreement with its supplier of imported coal; and (ii) made all necessary arrangements for import of Coal including the necessary shipping and port arrangements for delivery of Imported Coal in accordance with the terms of this Agreement
- 2.8.1.2 In respect of supply of domestic Coal (Applicable only for a Purchaser for whom any coal block has been identified for supply of coal) :** the Seller shall have (i) obtained from the lawful authority all requisite sanctions, approvals, licenses and consents including those related to land acquisition, environment and forest clearance for development and operation of the coal block identified in Schedule I to this Agreement; and (ii) achieved Seller's Financial Closure with respect to development and operation of the block identified in Schedule I to this Agreement.

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2.8.2 Purchaser's Condition Precedent :

- 2.8.2.1 The Purchaser shall have obtained from the lawful authority all necessary clearances, authorizations, approvals and permissions required for, construction, commissioning, operation and maintenance of the Plant.
- 2.8.2.2 The Purchaser shall have completed the construction and the completion of such construction along with readiness of the power plant for lighting up has been certified by an Independent Engineer within the Condition Precedent Period.
- 2.8.2.3 [Applicable to Purchaser who has signed FSA without entering into long-term PPA]
The Purchaser shall have to furnish the long term Power Purchase Agreement (PPA) either directly with Distribution Companies (DISCOMs) or through Power Trading Company(ies) (PTC) who has/ have signed back to back PPA(s) (long-term) with DISCOMs within the Condition Precedent (CP) period as per clause 2.8.3.1.

2.8.3 Satisfaction of Condition Precedent

- 2.8.3.1 The Conditions Precedents shall be fulfilled/ achieved within a period of twenty four (24) months from the Signature Date or such further period (up to a maximum of 180 days) as may be extended on account of Force Majeure under Clause 17 of this Agreement ("Condition Precedent Period")

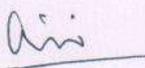
The CPs set out in Clause 2.8.1 above shall be fulfilled to the satisfaction of Seller or waived by the Seller at its sole discretion in accordance with the option to be exercised by the Purchaser in the letter as per Schedule VII with regard to acceptance / surrender of supply of imported coal without affecting in any way the Seller's obligations under this agreement. Within fifteen (15) days of achieving or waiving the CPs set out in Clause 2.8.1 as the case may be, the Seller shall issue a notice of satisfaction and notify to the Purchaser in writing. The Purchaser within fifteen (15) days from receipt of such notification shall issue a letter accepting the same.

- 2.8.3.2 The CPs set out in Clause 2.8.2 above shall be fulfilled to the satisfaction of the Seller or waived jointly by both the Parties in writing, as the case may be. Within fifteen (15) days of completion of achieving the CPs set out in Clause 2.8.2 the Purchaser shall issue a written notice of satisfaction and notify to Seller. The Seller within fifteen (15) days from receipt of such notification by Purchaser shall issue a letter accepting the same.
- 2.8.3.3 Notwithstanding the provisions of clause 2.8.3.1 above, at the request of the Purchaser, CIL may at its sole discretion extend the Condition Precedent Period.
- 2.8.3.4 If within the Condition Precedent Period, the Purchaser does not fulfill the Condition Precedent set out in clause 2.8.2 due to any reasons other than Force Majeure, or the said Condition Precedents in clause 2.8.2 have not been jointly waived by the parties in writing, the Seller shall have the right to forfeit the Security Deposit amount submitted by the Purchaser without any further notice to Purchaser. In case of FSAs applicable for more than 1 unit of a power plant, Security Deposit shall be forfeited in proportion to the number of units failed to achieve condition precedent.

2.9 First Delivery Date

- 2.9.1 Not later than 5 days from Effective Date, both parties shall determine a mutually agreeable 3 Month period within a time period of 18 month from the Effective Date for commencement of coal supplies ("Target Start Period"). In the event that the Parties are not able to agree on such 3-Month period then later of the 3 month period suggested by

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the either party shall be the Target Start Period. The actual date of coal delivery at the Delivery Point by the Seller within the Target Start Period shall be the **First Delivery Date**. In case there is no coal supply by the Seller at the Delivery Point during Target Start Period owing to reasons other than Force Majeure the last date of Target Start Period shall be deemed to be the **First Delivery Date**.

2.9.2 The Target Start Period may be extended on account of Force Majeure in accordance with Clause 17, subject to a maximum of 180 days.

2.10 Build – Up Period

2.10.1 Build-Up Period shall be the period of 6 months commencing on the First Delivery Date. In case CIL decides at its sole discretion to import, Build-up period shall be extended for a further period of six months for commencing supply of imported coal. During the Build-Up Period any compensation arising on account of short supply or short lifting, as per Clause -4.6 of this Agreement, shall not be payable by either Party. Supply of coal by Seller shall start only after the Purchaser's power plant becoming ready to start lighting up the boilers, to be confirmed by the Purchaser to the Seller in writing with documentary evidence.

2.10.2 The indicative Coal quantities to be supplied by the Seller and to be offtaken by the Purchaser during the Build- up Period are shown below. For avoidance of doubt, it is clarified that the quantities mentioned are indicative and the actual scheduled quantities may exceed or be lower compared to the quantities indicated below. The quantities shall however not exceed the pro-rated contracted quantities under this Agreement

Build Up Period	Indicative Coal Requirement (in Lakh Tonnes)
Build-Up Period [A period of 12 months from First Delivery Date as the case may be]	Unit-1 - 23.00 Unit- 2 – 23.00

3.0 SECURITY DEPOSIT (SD)

3.1 On signing of this agreement the Commitment Guarantee (CG) provided by the Purchaser prior to issue of Letter of Assurance (LOA) shall stand converted into the Security Deposit amount as determined under Clause 3.2. Accordingly, a sum of Rs. [.](Indian Rupees _____) is deemed to have been deposited by the Purchaser towards the Security Deposit amount stipulated in Clause 3.2. In the event the Commitment Guarantee amount provided by Purchaser is more than the Security Deposit amount as determined under Clause 3.2, Seller shall return such balance amount within three (3) months from the date of signing of this Agreement. In an event the Security Deposit amount as determined under Clause 3.2 is more than the Commitment Guarantee amount, the Purchaser shall deposit such balance amount within three (3) months from the date of signing of this agreement. Failure to submit the balance amount by the Purchaser within three (3) months from the date of signing of this agreement, as aforementioned, shall entitle the Seller to adjust the ACQ such that it is commensurate with the Security Deposit required to be submitted by the Purchaser under clause 3.2.

Notes: Purchaser directly entering into this Agreement who have been granted coal linkage by Standing Linkage Committee - Long Term (SLC-LT) and have not been issued Letter of Assurance (LOA) by Seller or any Purchaser who have been issued LOA without depositing of Commitment Guarantee as stipulated under the LOA shall deposit the Security Deposit amount as determined under Clause 3.2 before the Signature Date. [In such case delete Clause 3.1]





- 3.2 The Purchaser shall deposit with the Seller a sum of **Rs. 23,85,98,400/- (Rupees Twenty Three Crores Eighty Five Thousand Ninety Eight Thousand Four Hundred Only)** equivalent to six percent (6%) of the Base Price of such Grade of Coal, as described in Schedule III to this Agreement, prevalent on the date of deposit multiplied by ACQ, as Security Deposit (SD), in cash/ Bank Guarantee on or before the signing of this Agreement. In case of multiple Grades indicated in Schedule- III, the highest Grade shall be considered for the purpose of calculation of SD without any commitment whatsoever to supply such Grade of Coal. Such Security Deposit shall be non-interest bearing. Accordingly, the Purchaser has furnished **Rs. 25,55,22,240/- (Rupees Twenty Five Crores Fifty Five Lakhs Twenty Two Thousand Two Hundred Forty only)**.
- [In case the SD is in the form of a bank guarantee the same shall be provided in the enclosed format ("SD Bank Guarantee") with this Agreement at Schedule-II.]*
- 3.3 The SD Bank Guarantee submitted by the Purchaser, as per Clause 3.2 above, shall remain valid till thirty (30) days from the First Delivery Date under this Agreement. Purchaser shall extend the SD Bank Guarantee and submit such letter of extension/ extended SD Bank Guarantee to the Seller one month in advance of the expiry date thereof, failing which the Seller shall have the right to terminate this Agreement. In case of multiple units of a Power plant, thirty (30) days from FDD of the last unit.
- 3.4 The value of the Security Deposit shall be suitably increased / decreased to match the changes in the Base Price notified by the Seller from time to time. In the event of failure of the Purchaser to provide such increased value within thirty (30) days from the date of notification of such change in Base Price, the Seller shall have the right to terminate the Agreement. If additional SD due to such increase in the Base Price of Coal is submitted by way of additional bank guarantee, the period of validity of such bank guarantee shall be the same as that of the initial SD Bank Guarantee furnished in terms of Clause 3.1 to 3.3 above. Alternatively, the amount of the initial SD Bank Guarantee may be increased by an amendment so as to cover the increased value of SD resulting from the change in the Base Price.
- 3.5 The Security Deposit shall be refundable to the Purchaser at the end of 30 days from the First Delivery Date. In case of multiple units of a Power plant, thirty (30) days from FDD of the last unit.
- 3.6 Deleted
- 3.7 Deleted
- 4.0 QUANTITY:
- 4.1 Annual Contracted Quantity (ACQ):
- 4.1.1 The Annual Contracted Quantity of Coal agreed to be supplied by the Seller and undertaken to be purchased by the Purchaser, shall be **46.24 lakh tones (against LOA quantity of 46.24 Lakh Tonnes)** per Year from the Seller's mines and/ or from import, as per Schedule I. For part of Year, the ACQ shall be prorated accordingly. The ACQ shall be in the proportion of the percentage of Generation covered under long term Power Purchase Agreement(s) executed by the Purchaser with the DISCOMs either directly or through PTC(s) who has/ have signed back to back long term PPA(s) with DISCOMs plus an additional 10% of the quantity covered under long term PPA on account of transmission loss and auxiliary consumption within the overall ceiling of LOA quantity. To clarify, if the PPA furnished is 60% the ACQ shall be 66% of the LOA quantity, but, where the PPA furnished is 92% the ACQ shall be limited to the LOA quantity. TPPS already

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having 100% PPA shall have no scope for any increase beyond LOA quantity. Whenever, there is any change in the percentage of PPA(s), corresponding change in ACQ shall be effected through a side agreement. Such changes shall be allowed to be made only once in a year and shall be made effective only from the beginning of the next quarter. However, in no case ACQ should exceed the LOA quantity as mentioned in Schedule I, for which the FSA is executed.

4.1.2 The Purchaser shall in advance under the Schedule I provide firm annual coal requirement for the initial years required for phasing of the Power Plant after the completion of Build-Up Period, quantities subject to maximum of Annual Contract Quantity mentioned under Clause 4.1.1. Such quantities shall be considered binding and deemed to be Annual Contract Quantities for the respective years and be used for provisions under this Agreement.

4.1.3 It is expressly clarified that the Annual Contracted Quantity (ACQ) shall be valid for each Power Station separately, as mentioned in Schedule I, and all the provisions of this Agreement related to ACQ shall be applicable mutatis mutandis.

4.2 End-use of Coal

The total quantity of Coal supplied pursuant to this Agreement is meant for use at their **Vizag TPP of 2x520 MW located at Vill. Pallavalasa, Dist. Visakhapatnam, Andhra Pradesh**. The Purchaser shall not sell/divert and/or transfer the Coal to any third party for any purpose whatsoever and the same shall be treated as material breach of Agreement, for which the Purchaser shall be fully responsible and such act shall warrant suspension of coal supplies by the Seller.

However, interplant transfer of coal may be considered provided:

- a. Transfer of coal shall be allowed only between the power plants wholly owned by the Purchaser or its wholly owned subsidiary. No transfer of coal shall be allowed for a Joint Venture (JV) company of the Purchaser. The supply of coal, shall for all commercial purpose under the FSA remain unchanged and on account of the original Power Plant.
- b. Both the Power Plants should have executed FSA in the modified FSA Model applicable for new power plants and not having any supplies linked to coal blocks. In case of IPPs both the plants must have valid long term PPAs with DISCOMS.
- c. In no case the transferred quantity to a plant together with the quantity supplied under the applicable FSA shall exceed the ACQ of the transferee Plant for a particular year which is proportional to the long term PPA with DISCOMS.
- d. Transfer of coal will not be allowed to those plants who are allotted coal blocks under this arrangement.
- e. In case of change in the ownership and no environmental clearance of the plant this facility shall stand withdrawn, and
- f. Penalty/ Incentive under this arrangement would be considered in terms of (a) above.

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4.3 Sources of Supply

- 4.3.1 The Seller shall endeavor to supply Coal from own sources as mentioned in Schedule I. In case the Seller is not in a position to supply the Scheduled Quantity (SQ) of Coal from such sources as indicated in Schedule I, the Seller shall have the option to supply the balance quantity of Coal through import which shall not, unless otherwise agreed between the parties, exceed 15% of the ACQ in the year 2012-13, 13-14 and 14-15, 13% of ACQ in the year 2015-16 and 5% of the ACQ for the year 2016-17 and onwards. Seller may at its discretion, make such arrangement for supply of imported coal through CIL, and /or other enterprises. Accordingly, the Purchaser has to enter into a Side Agreement with CIL and/or Seller, as the case may be, in addition to this Agreement. The Side Agreement dealing with the terms and conditions for supply of Imported Coal would be an integral part of this Agreement.
- 4.3.2 For supply of coal through import as stated in clause 4.3.1 above, the Purchaser shall agree to have back to back arrangements, if so required with the Importing agency(ies) to be notified by the Seller/CIL and deposit 100% of payable amount in advance. The commercial terms and conditions for such supply shall be regulated as per the Side Agreement.
- 4.3.3 The Seller may also offer coal from loading points / coal stocks to be lifted by the Purchaser by his / their own transport arrangement by road / road-cum-rail or any other mode up to 5% of the ACQ. The provision shall however be applicable for supplies of coal under the Agreement from collieries of three coal producing subsidiaries of CIL viz. SECL, MCL and CCL. Further the provision shall continue till such time three major railway lines in these coal companies are constructed and made optional.
- 4.3.4 CIL reserves the right to transfer part of the ACQ from the Seller to another coal producing company (Subsidiary of CIL) based on the proposal received from the Seller, which would be binding on the Purchaser.

4.4 Quarterly Quantity (QQ)

The Annual Contracted Quantities from indigenous sources for the Year, as per Clause 4.1 shall be divided into Quarterly Quantities (QQ), expressed in tonnes, as follows:

I st Quarter (Apr-Jun.)	25% of ACQ
II nd Quarter (Jul-Sep)	22% of ACQ
III rd Quarter (Oct-Dec)	25% of ACQ
IV th Quarter (Jan-Mar)	28% of ACQ

4.5 Scheduled Quantity (SQ):

- 4.5.1 The monthly Scheduled Quantity (SQ) shall be one third (1/3rd) of the QQ.
- 4.5.2 Either the Purchaser or the Seller by serving a written Notice at least thirty (30) days prior to the commencement of a month, may revise the SQ to be supplied by the Seller in that month, provided that the increase/ decrease resulting from such revision shall not be in excess of 5% of the SQ and the Purchaser shall seek any such increase in SQ for the months of July, August and September of any Year only with the prior written consent of the Seller.

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- 4.5.3** Seller shall have the right to make good the short supplies in a particular month in the succeeding month(s) of the same Quarter to the extent of 5% of the SQ. Similarly, Purchaser shall have the right to make good the short lifting in a particular month in the succeeding months of the same Quarter to the extent of 5% of the SQ.
- 4.5.4** Total variation in any Month pursuant to clauses 4.5.2 and 4.5.3 shall in no case exceed 10% of the SQ.
- 4.5.5** Normally, variation shall not be permitted in respect of QQ either by Purchaser or Seller pursuant to 4.5.2, 4.5.3 and 4.5.4 except with mutual consent of the Purchaser and the Seller. However, variation in QQ with corresponding variation in the SQs of the quarter concerned over and above permitted under sub-clause 4.5.2, 4.5.3 and 4.5.4 can be made with mutual consent of the Purchaser and the Seller expressed in writing.
- 4.5.6 Deleted**
- 4.5.7** The above schedule of supply is in respect of supply of coal from indigenous sources. Supply of imported coal shall be made as per its availability, which is depending upon many uncontrollable factors and hence no restrictions shall be applicable for quarterly distribution.
- 4.6 Compensation for short delivery/lifting**
- 4.6.1** If for a Year, the Level of Delivery by the Seller, or the Level of Lifting by the Purchaser falls below ACQ with respect to that Year, the defaulting Party shall be liable to pay compensation to the other Party for such shortfall in Level of Delivery or Level of Lifting, as the case may be ("Failed Quantity") in terms of the following:

Source	Percentage of Penalty for the failed quantity (at the rate of weighted average of Base Prices of Grades of coal supplied)			
	Level of Delivery / Lifting of Coal in a Year	2012-13, 2013-14 & 2014-15	2015-16	2016-17 onwards
Imported + Domestic Qty	Below 100% but up to 80% of ACQ	NIL	NIL	NIL
Applicable for Imported Coal Only	Below 80% but up to 75% of ACQ	0 - 1.5	0 - 1.5	0 - 1.5
	Below 75% but up to 67% of ACQ			-
	Below 67% but up to 65% of ACQ		-	-

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Source	Percentage of Penalty for the failed quantity (at the rate of weighted average of Base Prices of Grades of coal supplied)			
	Level of Delivery / Lifting of Coal in a Year	2012-13, 2013-14 & 2014-15	2015-16	2016-17 onwards
Applicable for Domestic Coal	Below 75% but up to 70% of ACQ	-	-	0 - 5
	Below 70% but up to 67% of ACQ	-	-	5 - 10
	Below 67% but up to 65% of ACQ	-	0 - 2	
	Below 65% but up to 60% of ACQ	0 - 5	2 - 7	10 - 20
	Below 60% but up to 55% of ACQ	5 - 10	7 - 20	20 - 40
	Below 55% but up to 50% of ACQ	10 - 20	20 - 40	
	Below 50% of ACQ	20 - 40		

- 4.6.2 The penalty payable shall be computed in the same manner as done slab-wise for computation of income-tax. However, unlike income tax, the percentage of compensation shall grow on linear basis within each slab.

** Note: For the phasing period the annual coal requirements shall be based on the quantities mentioned by the Purchaser for the initial years under Schedule I of this agreement*

Note: The Purchaser has to give unconditional acceptance of imported coal and pricing mechanism thereof as would be decided by CIL, by signing the Schedule VII of this agreement. Unless such acceptance is accorded, the penal provision for supply below 80% and up to 65% of ACQ for the years 2012-13, 2013-14 and 2014-15 and below 80% and up to 67% of ACQ for the year 2015-16 shall not be applicable. The penal provision for supply below 75% shall be applicable from the year 2016-17 and onwards. The terms of import and the pricing mechanism shall be as per the provisions of the side agreement.

- 4.6.3 Agreements made earlier under the 'Coal Distribution System' as defined at clause 1.1(j) shall take precedence over the commitments made under this agreement.
- 4.6.4 The Seller shall be entitled to modify / amend the penalty levels as specified at clause 4.6.1 pursuant to review undertaken by MOC in terms of the clause 2.6(ii).

4.7 Level of Delivery:

Level of Delivery with respect to a Year shall be calculated in the form of percentage as per the following formula:

$$\text{Level of Delivery (LD)} = \frac{(DQ+DDQ+FM+RF) \times 100}{ACQ}$$

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Where:

LD = Level of Delivery of Coal by the Seller during the Year.

DQ = Delivered Quantity, namely, aggregate actual quantities of Coal delivered by the Seller during the Year.

DDQ = Deemed Delivered Quantity, reckoned in the manner stated in Clause 4.11.

FM = Proportionate quantity of Coal which could not be delivered by the Seller in a Year due to occurrence of Force Majeure event affecting the Seller and / or the Purchaser, calculated as under :

$$FM = \frac{ACQ \times \text{Number of days lost under applicable Force Majeure event}}{365}$$

Note: For the purpose of calculation of 'Number of days lost under applicable Force Majeure event', affecting both the Parties shall be counted only once.

RF = Quantity of Coal that could not be supplied by the Seller during the Year owing to the Railways not allotting wagons or not placing wagons for loading, in spite of specific valid indent/offer submitted by the Seller to the Railways against valid program(s) submitted by the Purchaser for the purpose.

4.8 Level of Lifting:

Level of Lifting with respect to a Year shall be calculated in the form of percentage as per the following formula:

$$\text{Level of Lifting (LL)} = \frac{(ACQ - DDQ) \times 100}{ACQ}$$

Where:

LL = Level of Lifting of Coal by the Purchaser during the Year.

DDQ shall have the same meaning as given in Clause 4.11.

4.9 For the purpose of computing DDQ and RF, the weight per rake will be **as per extant Railway rules**, which shall be used for calculation of compensation from either the Purchaser or Seller.

4.10 (Deleted – Not Used)

4.11 Deemed Delivered Quantity:

For the purpose of this Agreement, the aggregate of the following items provided under Clause 4.11.1 to 4.11.2 shall constitute the Deemed Delivered Quantity with respect to a Year.

4.11.1 For supply of Coal by rail:

- (i) The quantity of Coal not supplied by the Seller owing to omission or failure on the part of Purchaser to submit in advance the designated rail programme (s) to the Seller as per agreed time-table with respect to the Scheduled Quantity.

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- (ii) The quantity of Coal not supplied by the Seller owing to cancellation, withdrawal or modification of the rail programme(s) by the Purchaser after its submission whether before or after allotment of wagon(s) by Railways.
- (iii) The quantity of Coal not supplied by the Seller owing to Purchaser's failure to pay and/or submit / maintain IRLC, as applicable, in accordance with Clause 12.1.2.
- (iv) The quantity of Coal not supplied by the Seller owing to Seller exercising the right of suspension of supplies in terms of Clause 14.
- (v) The quantity of Coal offered by Seller from domestic and/or imported coal in terms of Clause 4.3.1 and 4.3.2 not accepted by the Purchaser.

4.11.2 For Supply of Coal by road/ ropeways/MGR/belt conveyer:

- (i) The quantity of Coal not supplied by the Seller owing to Purchaser's failure to pay and/or submit IRLC, as applicable, in accordance with Clause 12.1.2.
- (ii) The quantity of Coal not supplied by the Seller owing to Seller exercising the right of suspension of supplies in terms of Clause 14.
- (iii) The quantity of Coal not supplied by the Seller owing to Purchaser's failure to place the requisite number / type of transport at the Delivery Point for delivery of Coal within the validity period of the sale order/delivery order.
- (iv) The quantity of Coal offered by Seller from domestic and/or imported coal in terms of Clause 4.3.1 and 4.3.2 not accepted by the Purchaser.

4.11.3 Deemed Delivered Quantity in terms of Clause 4.11.1 and 4.11.2 shall be calculated on cumulated monthly basis during a Year.

4.12 Performance Incentive:

4.12.1 If the Seller delivers Coal to the Purchaser in excess of ninety (90%) of the ACQ in a particular Year, The Purchaser shall pay the Seller an incentive ("Performance Incentive") for the excess coal supplied:

Percentage of Actual deliveries	Percentage of Incentive at the rate of weighted average Base Price of grades of coal supplied		
	2012-13, 2013-14 & 2014-15	2015-16	2016-17 onwards
Above 90% but up to 95% of ACQ	0 - 10	0 - 10	0 - 10
Above 95% but up to 100% of ACQ	10 - 20	10 - 20	10 - 20
Above 100% of ACQ	40 (Fixed)	40 (Fixed)	40 (Fixed)

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Actual Deliveries = Actual Quantity [in tonnes] of Coal delivered by the Seller in the relevant Year including coal offered from imported coal but not accepted by the Purchaser.

- 4.12.2 The incentive payable shall be calculated in the same manner as done slab-wise for computation of income-tax. However, unlike income tax, the percentage of incentive shall grow on linear basis within each slab
- 4.12.3 With respect to part of Year in which term of this Agreement begins or ends, the relevant quantities in Clause 4.12.1, shall apply pro-rata.
- 4.12.4 The quantity offered by the company from imported coal and not accepted by the Purchaser shall be added with the actual delivered quantity as deemed delivered quantity for the purpose of determining the Actual Deliveries.
- 4.12.5 Supply of coal in excess of ACQ shall be with mutual consent.

4.13 Incentive/ Compensation adjustment for supply below 3100 Kcal/kg.

- 4.13.1 Coal supplied below 3100 Kcal/kg (earlier below 'G' grade under UHV system) will be accounted for separately to workout the percentage contribution of below 3100 Kcal/kg of the overall supply.
- 4.13.2 The quantity qualifying for incentive/ compensation shall be proportionately divided into two parts in the same ratio as indicated in 4.13.1 above.
- 4.13.3 25% of the proportionate quantity worked out as supply below 3100 Kcal/kg, as at 4.13.2 above, would be considered for incentive/ compensation.
- 4.13.4 The proportionate quantity worked out as supply above 3100Kcal/Kg, as at 4.13.2 and the adjusted quantity of supply below 3100Kcal/kg, as at 4.13.3 above will be added to ascertain the qualifying quantity for incentive/ compensation.

5.0 QUALITY:

- 5.1 The quality of Coal delivered / to be delivered shall conform to the specifications given in Schedule III.
- 5.2 The Seller shall make adequate arrangements to assess the quality and monitor the same to endeavour that un-graded Coal (GCV of less than 2200 Kcal/Kg for Non-coking coal) is not loaded into the Purchaser's Containers. If the Seller sends any quantity of such Coal, the Purchaser shall limit the payment of cost of Coal to Re.1/- (Rupee one only) per tonne. Royalty, cess, sales tax, etc. shall however be paid as per the Declared Grade. Railway freight shall be borne by the Purchaser.
- 5.3 The Seller shall deliver sized Coal with size conforming to specifications laid in Schedule III. The Seller shall make reasonable efforts to remove stones from Coal.
- 5.4 The Seller shall use magnetic separators and metal detectors, at its Coal handling/loading system at the Delivery Point, where the same are already installed.
- 5.5 **Declaration of Common Grade/ Re-declaration of Grade by the Seller:**
- (i) The Seller shall declare one common Grade for Coal seam or seams from which Coal is being despatched through the same Delivery Point, wherever applicable.

Model FSA – PPU (New) – Nov.12 modified upto 08.08.2013 (CIL
letter.no.CIL:S&M:CMO:47252(NewPol):626 dated 08.08.2013)

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- (ii) If the Grade analysed pursuant to Clause 5.7 shows variation from the Declared Grade, consistently over a period of three (3) months, the Purchaser shall request the Seller for re-declaration of Grade, which shall be duly considered by the Seller.

5.6 Oversized Coal / stones

5.6.1 Oversized Coal:

The Purchaser shall inform the Seller all incidents of receipt/presence of oversized Coal, in terms of specifications laid down in Schedule III, in any specific consignment(s), immediately on its detection at the Delivery Point and/or Unloading Point and the Seller shall take all reasonable steps to prevent such ingress at his end.

5.6.2 Stones:

The Purchaser shall inform the Seller all incidents of receipt / presence of stones in any specific consignment(s) by rail, immediately on its detection at the Delivery Point and/or Unloading Point. The Seller shall, immediately take all reasonable steps to prevent such ingress at his end. The stones segregated by the Purchaser at the Power Station end shall be assessed jointly by the representative of the Seller and the Purchaser at the Power Station end for adjustments pursuant to Clause 10.1.

5.6.3 Modalities for assessment of stones:

- a) The Purchaser shall endeavor to segregate and stack separately all oversized stones of size more than 250 mm received along with Coal from the Seller's supplies by rail at the Power Station end, during the month, at a mutually agreed place identified for the purpose within the Power Station premises, for the purpose of joint assessment pursuant to Clause 5.6.2 as per the procedure laid down in Schedule VI of this Agreement for compensation pursuant to Clause 10.1.
- b) The Seller shall depute its representative at the Power Station end between fourth (4th) day to tenth (10th) day of the following month, for joint assessment of the quantity of stones of size more than 250 mm received by rail in the preceding month and the Parties shall prepare a jointly signed statement of quantity of stones. The Purchaser shall extend full co-operation and facilitate deputation of representative of the Seller failing which the Seller shall not agree to the claim raised by the Purchaser in this regard.
- c) In case the Seller's representative fails to be present at the Power Station end, within the period stipulated at Clause 5.6.3 (b) for the assessment of the quantity of oversized stones in compliance to 5.6.3 (a), the quantity of oversized stones assessed by the Purchaser shall be intimated to the Seller, by the fifteenth (15th) day of such following month and the same shall be taken as final and binding on the Seller for the purpose of adjustments under Clause 10.1. Thereafter, the Purchaser shall dispose off / remove such stones by the end of such month under intimation to the Seller and the Purchaser shall not be under any obligation to preserve such material beyond the day(s) stipulated herein above. However, the Purchaser shall maintain all records/ documents for example work order, running account bills, payment document etc for such disposal and present the same along with audited / relevant records for scrutiny of the Seller, if required.
- d) Quantity of stones attributable to the Seller shall be worked out by pro rata apportionment on the basis of proportionate receipt of Coal by rail from Seller out of the total Coal received by the rail at the concerned Power Station during a month. For such apportionment, the Purchaser shall provide certified monthly figures of quantity of Coal

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received by rail as per Coal bill at the concerned Power Station from the Seller as well as from all sources other than the Seller.

- e) Compensation for oversized stones shall be payable by the Seller to the Purchaser month-wise, Power-station wise, in terms of weighted average Base Price of the analyzed Grade of indigenous Coal for the equivalent quantity of stones actually verified/removed, as above for such coal supplied progressively in a Year by Seller from the CIL sources to the concerned Power Station by rail/MGR after accounting for the weight reduction towards destination end, weighment in terms of Clause 6.2 and moisture compensation in terms of Clause 10.2. However, such total quantity of oversized stones actually verified/removed shall be restricted up to a ceiling of 0.75% of the total quantity of indigenous coal supplied during the year for the purpose of compensation if supply of indigenous coal during the year has also been made from any other source(s) including captive block beside CIL sources.

- 5.6.4 Without prejudice to provisions at Clause 5.6.3, if, in the Purchaser's reasonable determination, the presence of oversized Coal and/or stones is causing operating or maintenance problems at the Power Station, then, upon the request of the Purchaser, the Purchaser and the Seller shall meet and prepare a mutually acceptable plan for effectiveness of the Seller's efforts at removing oversized stones from the Coal.

5.7 Assessment of Quality of Coal at the loading end

5.7.1 Sample collection:

- i) Samples of Coal shall be collected jointly either manually or through any suitable mechanical sampling arrangement including Augur Sampling method at each of the Delivery Points for determining the quality of Coal.
- ii) For the purpose of sampling each rake (source wise, grade wise and plant wise) of Coal supplied from one Delivery Point shall be considered as a lot.
- iii) Each day's supply from a source shall be considered as one lot for the purpose of sampling in case of Coal supplies by road, ropeways, belt and Merry-Go-Round (MGR) rail system. However, in case of Coal supplies by Railways, each rake from a source shall be considered for the purpose of sampling.

- 5.7.2 Detailed modalities for collection, handling, storage and preparation of joint samples shall be as per Schedule V to this Agreement.

5.7.3 Sample preparation & analysis:

(i) Total Moisture

Sample for determination of Total Moisture shall be segregated from the sample collected at the Delivery Point jointly by the Seller and the Purchaser, and prepared and analysed, as per procedure given in Schedule-V.

(ii) Daily Gross Sample

- a) The Gross Sample collected from a rake and/or day's supply for determination of moisture, ash & GCV on equilibrated basis shall be jointly reduced into laboratory sample on the date immediately following the date of collection. The final laboratory samples will be divided into two parts viz. Set – I and Set – II, as follows :

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- Set – I shall be used for joint analysis to determine the ash, moisture and GCV as per BIS standards IS 1350 Part-I, 1984 and IS 1350 Part-II-1970 respectively.
 - Set – II shall be kept under joint seal as stand-by sample in the safe custody for a period of fourteen (14) days or until the analysis results of Set – I are accepted without dispute, whichever is earlier.
- b) The sample in Set -I shall be analysed for ash, moisture and GCV content on equilibrated basis {wherever required in accordance with IS: 1350 (Part –I) – 1984 and IS: 1350 (Part – II) – 1970.
- c) Set-I of the laboratory sample as prepared shall be jointly analysed at the Seller's laboratory at the loading end as per relevant part of IS: 1350 (Part –I) – 1984 and IS: 1350 (Part – II) – 1970 within three-four (3-4) days from the date of preparation and distribution of laboratory sample for analysis of ash,moisture and GCV.
- d) In the event of any dispute (which shall be raised not later than forty-eight (48) hours after analysis) on the joint analysis of set - I, the stand-by sample as in set - II shall be analysed jointly at the Seller's Laboratory at the loading end within seventy two (72) hours of the dispute but not later than eight (8) days of the collection of samples.
- e) The procedure for storage of stand-by sample shall be mutually agreed upon by both the Parties.
- 5.7.4 Each sample shall be assigned with a code number and will be identified by such code only and no other particulars will be indicated or written on the tag attached with the relevant bag containing the sample.
- 5.7.5 All tools, tackles required for collection of joint samples, its preparation and all laboratory facilities for the purpose of joint analysis of samples shall be provided by the Seller as per the provision of this Agreement.
- 5.7.6 In the event that no sample is collected from dispatches by a rake or on any day, as the case may be, from a source for any reason, the weighted average of the most recent results available in any preceding month against respective Source and Grade shall be adopted for such dispatches for which samples were not collected.

6.0 WEIGHMENT OF COAL

- 6.1 For dispatch of Coal by Rail, all the wagons loaded for the Purchaser shall be weighed at the loading end at the electronic weighbridge of Seller and electronic print out of actual weight recorded shall be provided. Such weighment shall be final and binding for determination of the quantity delivered. The Purchaser shall have the right to witness the weighment of the wagons at the weighbridge, if desired. The Seller shall send copies of duly signed print-outs of the weighment to the Purchaser after weighment of each consignment beside annexing copy of such signed printouts alongwith the bill(s) raised by the Seller.
- 6.2 Only in the absence of weighment of Coal on electronic weighbridge at the loading end, the weight recorded at the Purchaser's electronic weighbridge with an electronic print-out facility at the Unloading Point, if in proper working order, shall be taken as final. In respect of unweighed consignments/ wagon at the Delivery Point on electronic weighbridge and

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weighed on electronic weighbridge at the Purchaser's end, the Purchaser shall submit the associated electronic printout to the Seller for such consignments/ wagon within thirty (30) days from the date of Railway Receipt, beyond which time the weight of the consignment shall be considered on Railway Receipt basis.

- 6.3 If both the weighbridges installed by the Seller as well as the Purchaser are defective, / not available for recording weight of the consignments of Coal , weighted average quantity of Coal per wagon (to be determined separately for respective types of wagons in the circuit), as per the actual weighment over a continuous period of immediately preceding seven (7) days shall form the basis for determining the quantity of Coal from that source at that Delivery Point, till such time any one of the weighbridges is corrected and put back into operation. If the weighbridges at both the Seller's and the Purchaser's end are not available for recording weight of coal and actual weighment over a continuous period of immediately preceding seven (7) days is also not available then weight of Coal for such unweighed wagons shall be taken as per the weight indicated in the Railway Receipts (RRs).
- 6.4 The Seller and the Purchaser shall permit access to and make facilities available at its weighbridge, for representatives of either Party to witness and note the weight for the consignment. In case the representative of any Party fails to be present, at the time of such weighment, the weight recorded by the representative of the other Party in accordance with Clause 6.1 and 6.2, shall be final and binding.
- 6.5 The weighbridges both at the Seller's end and at the Purchaser's end shall be calibrated as per the Weights and Measures Standards and also whenever required. Both the Seller and the Purchaser shall have right to witness the calibration of the weighbridge at each other's end. Coal bills of consignment, which are weighed as per the provisions of clause 6.1, shall bear the rubber stamp indicating electronic printout has been enclosed. If the electronic printout with Coal bill is not received by the Purchaser despite rubber stamp, such bills shall be returned to the Seller for re-submission along with electronic printout within twenty (20) days.
- 6.6 Operation and Maintenance of Weighment System**
- The Parties shall at their respective costs,
- a) Operate and maintain their weighbridges in good working order and in accordance with the Weights and Measures Standards and other applicable laws.
 - b) Cause the weighbridge to be inspected, tested and certified by the statutory agencies in accordance with and at the intervals required by the Weights and Measures Standards and the Parties shall, at their cost, extend / make available all requisite facilities required for the purpose of testing and/or calibrating the weighbridge.
- 6.7 For dispatch of Coal by road, the weight recorded at the electronic weighbridge of the Seller at the loading end shall be final for the purpose of billing and payment. The Purchaser shall have the right to witness the weighment at the colliery, if desired. The weighbridge shall be calibrated as per the provisions of the Standards of Weights & Measures Act 1976. The Purchaser shall have right to witness such calibration.
- 6.8 For dispatch of Coal by belt conveyor, a weightometer shall be installed at the colliery/ washery end of the Seller and weight recorded by the weightometer shall be the weight of Coal supplied. The weightometer shall be kept under joint seal and will be repaired / recalibrated in the presence of the representatives of the both the Parties, wherever necessary.

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6.9 For dispatch of Coal by MGR system, weight recorded at the loading end through electronic weighment system shall form the basis for determining the quantities of Coal delivered.

7.0 METHOD OF ORDER BOOKING AND DELIVERY OF COAL:

The Purchaser shall submit monthly programme(s) mode-wise for off-take of Coal against the monthly mode-wise Coal allocation made by the Seller. Notwithstanding, Clause 7.1 and Clause 7.2 shall be applicable in case of Coal off-take by rail and road respectively.

7.1 Order Booking by Rail:

7.1.1 At least seven (7) working days prior to the commencement of the month concerned, the Purchaser shall submit a programme in writing to the Seller, as per the applicable Railway rules and the Seller's notified procedures. Thereafter, the Seller shall process for issuance of the consent of the programme. The sanction of the consented rail programme shall be obtained accordingly. The validity period of the monthly programme for movement by rail for seeking allotment shall be till the last day of the month concerned. The consent of the programme to be issued by the Seller shall not remain valid after the above period. Once the rake is allotted, it shall remain valid for supply as per the prevailing Railways rules.

7.1.2 Subject to fulfillment of payment obligations pursuant to Clause 12.1.2 by the Purchaser, the Seller shall thereupon submit specific indent/offer based on the valid rail programme(s) to the Railways as per the extant Railway rules for the allotment and placement of wagons during the concerned month in conveniently spaced intervals.

7.1.3 The wagons shall be booked on "freight to pay" or "freight pre paid" basis, as applicable based on the arrangements made by the Purchaser with Railways in this regard.

7.1.4 In case of formation of rakes with wagons loaded from different Delivery Points, the Seller shall make best efforts to complete documentation formalities as per Railway rules so as to enable the Purchaser to avail a trainload freight rate.

7.1.5 In the event rail movement is declared / considered not feasible by Railways, review will be made jointly in the matter of mode of transport.

7.2 Order Booking by Road:

7.2.1 The Seller shall intimate the Purchaser about the monthly Coal allocation for order booking seven (7) working days prior to the commencement of the month concerned.

7.2.2 Based on the monthly colliery wise allocation done by the Seller in terms of Clause 7.2.1, the Purchaser shall place orders with the Seller for the Scheduled Quantity.

7.2.3 Subject to fulfillment of payment obligations pursuant to Clause 12.1.2 by the Purchaser, the Seller shall arrange to issue sale order(s)/delivery order(s) separately for each colliery and issue necessary loading programme / schedule from time to time. The Purchaser shall arrange to place the required number / type of trucks to lift the Coal as per such loading programme / schedule. The Seller shall ensure that the sale order / delivery order in favour of the Purchaser reaches the concerned colliery/weigh bridge within five (5) working days of the last day of the period notified by the Seller for booking orders in terms of Clause 7.2.1.

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- 7.2.4 The Seller shall ensure delivery and the Purchaser shall ensure lifting of Coal against sale order / delivery order of any month within the validity period, as mentioned in the sale order.
- 7.2.5 In the event of any quantity remaining undelivered / unlifted, the Purchaser shall be entitled to receive, once the validity period of the sale order/ delivery order expires, the refund of the proportionate value of such quantity.

8.0 TRANSFER OF TITLE TO GOODS:

Once delivery of Coal have been effected at the Delivery Point by the Seller, the property / title and risk of Coal so delivered shall stand transferred to the Purchaser in terms of this Agreement. Thereafter the Seller shall in no way be responsible or liable for the security or safeguard of the Coal so transferred. Seller shall have no liability, including towards increased freight or transportation costs, as regards missing/diversion of wagons / rakes or road transport en-route, for whatever causes, by Railways, or road transporter or any other agency.

9.0 PRICE OF COAL:

The "As Delivered Price of Coal" for the Coal supplies pursuant to this Agreement shall be the sum of Base Price, Other Charges and Statutory Charges, as applicable at the time of delivery of Coal.

9.1 Base Price

The Purchaser shall pay the Base Price of Coal in accordance with the provisions of this Agreement. It is expressly clarified that the Base Price in relation to the Indigenous coal and Imported Coal shall be notified/ declared by the Seller/ CIL, as the case may be from time to time.

9.2 Other Charges:

9.2.1 Transportation charges :

Where Coal is transported by the Seller beyond the distance of three (3) kms from Pithead to the Delivery Point, the Purchaser shall pay transportation charges, as notified by CIL / Seller from time to time.

9.2.2 Sizing/Crushing charges :

Where Coal is crushed/ sized for limiting the top-size to 250mm, or any other lower size, the Purchaser shall pay sizing/crushing charges, as applicable and notified by CIL / Seller from time to time.

9.2.3 Rapid Loading Charges :

Where Coal is loaded through rapid loading system, the Purchaser shall pay rapid loading charges notified by CIL / Seller from time to time.

9.2.4 Any other applicable charges :

Any other applicable charges as notified by CIL/ Seller from time to time including additional charges and service charges arising out of supply of imported coal, as may be applicable. The Service Charge 2% of Landed Price of Imported Coal (CIF Prices)

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plus applicable taxes and levies for supply of Imported Coal, till any further revision in the rate.

9.3 Statutory Charges :

The statutory charges shall comprise royalties, cesses, duties, taxes, levies etc., if any, payable under relevant statute but not included in the Base Price and/or other charges pursuant to Clause 9.2, shall be payable by the Purchaser. These levies/charges shall become effective from the date as notified by the Government/ statutory authority.

9.4 In all cases, the entire freight charges, irrespective of the mode of transportation of the Coal supplied, shall be borne by the Purchaser.

10.0 COMPENSATION:

10.1 Oversized Stones:

The Seller shall adjust through regular credit notes to the Purchaser amounting to hundred percent (100%) of the weighted average Base Price, as per the analysed Grade of Coal applicable for the month in which such supplies were made by the Seller and other charges pursuant to Clause 9.2 but excluding statutory charges pursuant to Clause 9.3, if any, and railway freight for the quantity of oversized stones received by the Purchaser along with the Coal supplies during the month as per the jointly assessed signed statement or as intimated by the Purchaser to the Seller pursuant to Clause 5.6.3(b) or 5.6.3(c) respectively.

10.2 Excess Surface Moisture

- (i) In the event that monthly weighted average Surface Moisture in Coal exceeds seven percent (7%) during the months from October to May and nine percent (9%) during the months from June to September, the Coal quantities delivered to the Purchaser during such month shall be adjusted for the resultant excess Surface Moisture, which shall be calculated in percentage by which the Surface Moisture exceeds the foregoing limits.
- (ii) The seller shall give regular credit note on account of excess Surface moisture, as per Clause 10.2(i) above, calculated at the rate of Base Price of Analysed Grade of coal and other charges, pursuant to clause 9.2 but excluding statutory charges pursuant to clause 9.3, if any, and railway freight for the quantity of excess Surface Moisture.
- (iii) Sampling/ analysis and determination of Surface Moisture for compensation shall be done as per the procedure given in Schedule V.

11.0 OVERLOADING AND UNDER LOADING:

11.1 Any penal freight for overloading charged by the Railways for any consignment shall be payable by the Purchaser. However, if overloading is detected from any particular colliery, consistently during three (3) continuous months, on due intimation from the Purchaser to this effect, the Seller undertakes to take remedial measures.

11.2 For Non coking coal of GCV exceeding 5800 Kcal/Kg and coking coal of Steel Grade I, Steel Grade II, Washery Grade I, Washery Grade II, Semi-coking Grade I, Semi-coking Grade II and washed Coal; any idle freight for under-loading below the stenciled carrying capacity, as shown on the wagon or carrying capacity based on the actual tare weight or permissible carrying capacity as notified by the Railways (route-wise) for any particular type of wagon from time to time, in which case the stenciled carrying capacity as shown

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on the wagon is more than the permissible carrying capacity, as the case may be, shall be borne by the Seller. For all other Grades of Coal, any idle freight for under-loading below the stenciled carrying capacity, as shown on the wagon or carrying capacity based on the actual tare weight, as the case may be, plus two (2) tonnes shall be borne by the Seller. However, in the cases where permissible carrying capacity is less than the stenciled carrying capacity, as mentioned above, the idle freight shall be borne by the Seller only up to the permissible carrying capacity.

- 11.3 Idle freight resulting from under loading of wagon, as per Clause 11.2, shall be adjusted in the bills. Idle freight shall be reckoned as:
- (i) For Non coking coal of GCV exceeding 5800 Kcal/Kg and coking coal of Steel Grade I, Steel Grade II, Washery Grade I, Washery Grade II, Semi-coking Grade I, Semi-coking Grade II and washed Coal, the difference between the freight charges applicable for the stenciled carrying capacity, as shown on the wagon or carrying capacity based on the actual tare weight or permissible carrying capacity as notified by the Railways (route-wise) for any particular type of wagon from time to time, in which case the stenciled carrying capacity as shown on the wagon is more than the permissible carrying capacity, as the case may be, and the freight payable as per actual recorded weight of Coal loaded in the wagon; and/or
 - (ii) For all other Grades of Coal, the difference between the freight charges applicable for the stenciled carrying capacity, as shown on the wagon or carrying capacity based on the actual tare weight, as the case may be, plus two (2) tonnes and the freight payable as per actual recorded weight of Coal loaded in the wagon. However, in the cases where permissible carrying capacity is less than the stenciled carrying capacity, as mentioned above, the difference shall be reckoned between the freight applicable for permissible carrying capacity and the freight payable as per the actual recorded weight of coal loaded in the wagon.

12.0 MODALITIES FOR BILLING, CLAIMS & PAYMENT

12.1 Bills on Declared Grade basis

- 12.1.1 The Seller shall raise source-wise bills for the Coal supplied to the Purchaser on Declared Grade basis. The Seller shall raise such bills on rake-to-rake basis for delivery of Coal by rail and on daily basis for delivery of Coal by road and other modes of transport. Such bills shall be raised within seven (7) days of delivery.
- 12.1.2 The Purchaser shall pay in accordance with either of the following payment mechanisms:
- (a) The Purchaser shall make advance payment for a month in three (3) installments for availing Coal supplies from the Seller – first (1st) installment on the first (1st) day of the month, second (2nd) installment on the eleventh (11th) day of the month and the third (3rd) installment on the twenty first (21st) day of the month. Each of these payment installments shall cover the As Delivered Price of Coal for the Coal quantities that is one-ninth (1/9th) of the QQ concerned, as per Clause 4.4. Further, each of these installments shall take into account the weighted average of Base Prices of Grades mentioned in Schedule III based on actual supplies of immediately available previous month. However, the third (3rd) installment shall also include the adjustment amount with regard to the actual quantity of Coal delivered pursuant to Clause 6 and the quality of Coal analysed pursuant to Clause 12.2 vis-à-vis the advance payment made for the previous month. For the avoidance of any doubt, such adjustment amount shall also include the quantity adjustment calculated pursuant to Clause 10.1 and 10.2.

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(b) The Purchaser shall maintain with the Seller an Irrevocable Revolving Letter of Credit (IRLC) issued by a bank acceptable to the Seller and in the format acceptable to the Seller and fully conforming to the conditions stipulated in Schedule IV for an amount equivalent to As Delivered Price of Coal for the Coal quantities that is one-ninth (1/9th) of the QQ concerned, as per Clause 4.4. The As Delivered Price of Coal in this context shall take into account the highest of Base Prices of Grades mentioned in Schedule III. The IRLC shall be maintained throughout the term of this Agreement. The amount of IRLC shall be suitably changed whenever there is a change in any component of the As Delivered Price of Coal. In addition to the IRLC, the Purchaser shall pay advance amount equivalent to seven (7) days Coal value by way of Demand Draft/ Banker's cheque/ Electronic Fund Transfer (EFT).

12.1.3 All the payments shall be made through Demand Draft / Banker's cheque/ Electronic Fund Transfer payable at **Sambalpur/ Kolkata**. In the event of non-payment within the aforesaid stipulated period, the Purchaser shall be liable to pay interest in accordance with Clause 13.

12.1.4 Advance payment made by the Purchaser shall be non-interest bearing, and it shall change in accordance with change in the As Delivered Price of Coal.

12.2 Adjustment for analyzed quality/ Grade

12.2.1 The bills with regard to adjustment for quality, as determined under Clause 5.7, shall be supported by relevant documents in respect of the analysis carried out of the following parameters:

- a) Total Moisture (%)
- b) Equilibrated Moisture (%)
- c) Ash (%)
- d) GCV (Kcal/Kg)

Provided that in the event no sample is collected from dispatches by a rake or on any day, as the case may be, from a source for any reason, the weighted average of the most recent results available in any preceding month against respective Source and Grade shall be adopted for such dispatches for which samples were not collected.

12.2.2. The Seller shall give regular credit note on account of Grade slippage to the extent of difference in the Base Price of Declared Grade and analysed Grade of Coal. In case of analysed Grade being higher than the Declared Grade, bonus bill/ claim shall be raised by the Seller. The credit note on Grade slippage shall be issued by the Seller within seven (7) days of acceptance of results under joint signature.

12.2.3 The amount arising out of final settlement of any bill pursuant to Clause 12.2.1 that is disputed by the Purchaser shall be adjusted for, as part of the third (3rd) installment pursuant to Clause 12.1.2(a) that is due for payment in the same month or in the immediately succeeding month to the month in which such settlement takes place.

12.3 Bills of Miscellaneous Claims:

12.3.1 The Seller shall, within seven (7) days of the receipt of claim pursuant to Clause 10.1 raised by the Purchaser, issue credit note, which shall be adjusted as part of the third (3rd) installment pursuant to Clause 12.1.2. (a).

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- 12.3.2 The bills towards interest charges pursuant to Clause 13 shall be raised by the parties on monthly basis by the tenth (10th) day of the following month and the payment shall be made by fifteenth (15th) day of the same month.
- 12.3.3 Compensation for short supply/lifting, as calculated in accordance with Clause 4.6, shall be payable by the defaulting Party to the other Party within a period of ninety (90) days from the date of receipt of claim failing which it will attract interest in terms of Clause 13.
- 12.3.4 After expiry of the Year, the Seller shall submit an invoice to the Purchaser with respect to the Performance Incentive payable in terms of Clause 4.12.1 and the Purchaser shall pay the amount so due within thirty (30) days of the receipt of the invoice failing which it will attract interest in terms of Clause 13.

12.4 Diverted rakes/ missing wagons

In case of diversion of rakes en-route or missing wagons, bills shall be paid to the Seller by the original consignee.

12.5 Annual Reconciliation / Adjustments :

The Parties shall jointly reconcile all payments made for the monthly Coal supplies during the Year by end of May of the following Year. The Parties shall, forthwith, give credit/debit for the amount falling due, if any, as assessed during such joint reconciliation. The annual reconciliation statement shall be jointly signed by the authorized representative of the Seller and the Purchaser which shall be final and binding.

- 12.6 In the event of due date of any payment obligation under this Agreement falling on Sunday or a gazetted holiday or Nationwide strike affecting banking services, the next first working day shall be the effective due date for the purpose.

13.0 INTEREST ON DELAYED PAYMENT

In the event of delay in payment/adjustment of any amount payable/recoverable pursuant to the provisions of this Agreement, the Seller/the Purchaser shall be entitled to charge interest on such sum remaining outstanding for the period after the due date till such time the payment is made. The interest charged by the Seller/ Purchaser pursuant to this Clause shall be at the Interest Rate, as per Clause 1.1(dd).

14.0 SUSPENSION OF COAL SUPPLIES

- 14.1 Notwithstanding other provisions of this Agreement, in the event the Purchaser:
- (a) Fails to pay any amount including any interest, due to the Seller under this Agreement within a period of five (5) days of the same falling due.
- (b) In the event of any default by the Purchaser in terms of reselling or diverting the Coal.
- (c) In the event of expiry of validity of PPA.
- (d) Fails to submit a Certificate (annual) from the State / Central Regulatory Authority as the case may be to the effect that the DISCOM(s) have received consistent supply of power from the power producer in case of a direct PPA(s) or from the PTC(s) to whom the power producer has supplied the power to be supplied to the DISCOM(s) under the PPA.

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The Seller shall have the right to resort to any one or more of the following:

- (e) Adjust the outstanding amount from any amount of the Purchaser lying with Seller including Payments made for coal supplies; and/or
 - (f) Suspend supplies of Coal to the Purchaser.
- 14.2 During the period of suspension of supplies in terms of Clause 14.1 the Seller shall be relieved of his obligations to supply Coal. However, the obligations of the Purchaser under this Agreement shall be deemed to remain in full force.
- 14.3 In the event of suspension of Coal supplies pursuant to the Clause 14.1(a), the Seller shall have the right to continue the suspension for as long as the outstanding payment has not been adjusted/ paid. The Seller shall resume the Coal supplies within three (3) days of payment of the outstanding amount together with interest.
- 14.4 In the event of suspension of Coal supplies pursuant to the Clause 14.1(b), the Seller shall have the right to continue the suspension of Coal for as long as appropriate arrangements to the satisfaction of the Seller have not been made by the Purchaser to stop the diversion or the re-selling of the Coal.
- 14.5 In the event of suspension of Coal supplies pursuant to the Clause 14.1(c) the Seller shall have the right to continue the suspension of Coal for as long as (not exceeding six months) the Purchaser does not submit the renewed/revalidated PPA(s) (executed either directly with the DISCOM or through a PTC) to the satisfaction of the Seller. The quantity of coal not delivered by the Seller during the period of suspension shall be considered as Deemed Delivered Quantity (DDQ).

15.0 SETTLEMENT OF DISPUTES:

- 15.1 In the event of any dispute, disagreement or difference arising out of or in connection with this Agreement, including any question regarding its performance, existence, validity, termination and the rights and liabilities of the Parties to this Agreement ("Dispute"), the Parties shall endeavour to amicably settle the same through negotiations carried out in good faith.
- 15.2 For the purpose of conducting negotiations, each Party shall designate in writing to the other Party a representative who shall be authorised to negotiate on its behalf with a view to resolving any Dispute (the "**Representative**"). Each such Representative shall remain so authorised until his replacement has been designated in writing to the other Party by the Party he represents.
- 15.3 The Representative of the Party which considers that a dispute has arisen shall give to the Representative of the other Party, a written notice setting out the material particulars of the dispute ("**Dispute Notice**"). Within thirty days, or such longer period as may be mutually agreed, of the Dispute Notice having been delivered to the other Party, the Representatives of both Parties shall meet in person, to attempt in good faith and using their best endeavours at all times, to resolve the Dispute. Once the Dispute is resolved, the terms of the settlement shall be reduced in writing and signed by the Representatives of the Parties.

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16.0 TERMINATION OF CONTRACT/AGREEMENT:**16.1 Force Majeure Act/ Change in Law**

Notwithstanding the provisions of Clause 2, this Agreement may be terminated in the following events and in the manner specified here under:

- 16.1.1 In the event that either Party is rendered wholly or partially unable to perform its obligations under this Agreement ("**Affected Party**") because of a Force Majeure Act, as described in Clause 17 below, and such inability to perform lasts for not less than a total of nine (9) months in continuous form or of twelve (12) months in discontinuous form in a period of two (2) Years, and in the considered assessment of the other Party ("**Non-Affected Party**") there is no reasonable likelihood of the Force Majeure Act coming to an end in the near future, such Party shall have the right to terminate this Agreement, by giving at least ninety (90) days prior written notice to the Affected Party of the intention to so terminate this Agreement. In such event, the termination shall take effect on expiry of the notice period or ninety (90) days whichever is later, and the Parties shall be absolved of all rights/obligations under this Agreement, save those that had already accrued as on the effective date of termination.
- 16.1.2 In the event that the Purchaser is prevented /disabled under law from using Coal, for reasons beyond their control, owing to changes in applicable environmental and/or statutory norms, howsoever brought into force; the Purchaser shall have the right to terminate this Agreement, subject to a prior written notice to the Seller of not less than thirty (30) days.
- 16.1.3 In the event of any material change in the Coal distribution system of Seller due to a Government directive/ notification, at any time after the execution of this Agreement, the Seller may terminate this Agreement without any obligation/liability after providing the Purchaser with prior written notice to the Purchaser of not less than thirty (30) days.

16.2 Termination in Event of Default

Notwithstanding the provisions of Clause 2

- 16.2.1 In the event that the Level of Delivery (LD) falls below thirty percent (30%) or the Level of Lifting (LL) falls below thirty percent (30%), the Purchaser or the Seller as the case may be, shall have the right to terminate this Agreement, after providing the other Party with prior written notice of not less than thirty (30) days. However, such notice is to be issued within sixty (60) days of the end of the relevant Year.
- 16.2.2 In the event that the matter pertaining to the diversion or breach of end use of coal leads to suspension of the deliveries pursuant to Clause 14.1(b) and the matter cannot be resolved to the satisfaction of the Seller, the Seller shall have the right to terminate the agreement forthwith without any liabilities or damages, whatsoever, payable to the Purchaser.
- 16.2.3 The Seller, in the event of continuation of suspension for a continuous period of 6 months pursuant to Clause 14.1, shall have the right to terminate this Agreement by providing a notice period of thirty (30) days.
- 16.2.4 In the event that either Party suffers insolvency, appointment of liquidator (provisional or final), appointment of receiver of any of material assets, levy of any order of attachment of the material assets, or any order or injunction restraining the Party from dealing with or

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disposing of its assets and such order having been passed is not vacated within sixty (60) days, the other Party shall be entitled to terminate this Agreement

- 16.2.5 In the event the Purchaser fails to submit the renewed/revalidated PPA pursuant to suspension of coal supplies as per clause 14.1(c) and 14.5 within a period of Six (6) months from the date of expiry of the validity of the PPA, the Seller shall have the right to terminate this agreement by issuing a prior notice of thirty (30) days.
- 16.2.6 In the event that any Party commits a breach of term or condition of this Agreement ("Defaulting Party") not otherwise specified under this agreement, the other Party ("Non-Defaulting Party"), shall have the right to terminate this Agreement after providing the Defaulting Party thirty (30) days prior notice and the breach has not been cured or rectified to the satisfaction of the Non-Defaulting Party within the said period of thirty (30) days.

16.3 **Accrued rights to survive termination**

Termination of this Agreement shall be without prejudice to the accrued rights and obligations of either Party as at immediately prior to the termination.

17.0 **FORCE MAJEURE:**

- 17.1 "Force Majeure Act" means any act, circumstance or event or a combination of acts, circumstances and events which wholly or partially prevents or delays the performance of obligations arising under this Agreement by any Party ("**Affected Party**") and if such act, circumstance or event is not reasonably within the control of and not caused by the fault or negligence of the affected Party, and provided that such act, circumstance or event is in one or more of the following categories:
- a) Flood, inundation of mine, drought, lightening, cyclone, storm, earthquake, adverse geo-mining conditions, eruption of gases, subsidence and such natural occurrences;
 - b) Explosion, Mine fire and other fire, contamination of atmosphere by radio active or hazardous substances;
 - c) Civil disturbance such as riot, terrorism etc.;
 - d) Industry wise /nationwide strikes;
 - e) Any law, ordinance or order of the Central or State Government, or any direction of a statutory regulatory authority that restricts performance of the obligations hereunder;
 - f) Epidemic;
 - g) The enactment, promulgation, amendment, suspension or repeal of any Applicable Laws after the date hereof;
 - h) Any delay or direction or order on the part of the Government of India or relevant State Government or denial or refusal to grant or renew, or any revocation, or modification of any required permit or mining lease or governmental approvals including those related to land acquisition or environment/ forest clearance provided that such delay, modification, denial, refusal or revocation was not due to a cause attributable to the Affected Party;
 - i) Global shortage of Imported Coal or delays caused by supplier or no response to enquiries for supply of coal or logistics constraints in transportation of Imported Coal;

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- j) Any law and order problems affecting coal production and transportation of coal;
- k) Failure of supply of Power from Power Supplier(s);
- l) The events under Force Majeure for supply of coal through import shall be in accordance with the provisions under the side agreement for supply of imported coal as per clause 4.3.1 and 4.3.2.

17.2 Burden of Proof :

In the event the Parties are unable to agree in good faith that a Force Majeure Act has occurred; the Parties shall resolve the dispute in accordance with the provisions of this Agreement. The burden of proof as to whether a Force Majeure Act has occurred shall be upon the Party claiming the occurrence or existence of such Force Majeure Act.

17.3 Effect of Force Majeure :

If either Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Act, that Party shall be excused from whatever performance is affected by the Force Majeure Act to the extent so affected, provided that:

- a) Within five (5) Business Days after the occurrence of the inability to perform due to a Force Majeure Act, the Affected Party provides a written notice to the other Party of the particulars of the occurrence, including an estimation of its expected duration and probable impact on the performance of its obligations hereunder, and continues to furnish periodic reports with respect thereto, every seven (7) days, during the period of Force Majeure,
- b) The Affected Party shall use all reasonable efforts to continue to perform its obligations hereunder and to correct or cure as soon as possible the Force Majeure Act,
- c) The suspension of performance shall be of no greater scope and duration no longer than is reasonably necessitated by the Force Majeure Act,
- d) The Affected Party shall provide the other Party with prompt notice of the cessation of the Force Majeure Act giving rise to the excuse from performance and shall thereupon resume normal performance of obligations under this Agreement with utmost promptitude,
- e) The non-performance of any obligation of either Party that was required to be performed prior to the occurrence of a Force Majeure Act shall not be excused as a result of such subsequent Force Majeure Act,
- f) The occurrence of a Force Majeure Act shall not relieve either Party from its obligations to make any payment hereunder for performance rendered prior to the occurrence of Force Majeure Act or for partial performance hereunder during period of subsistence Force Majeure Act; and
- g) The Force Majeure Act, shall not relieve either Party from its obligation to comply with Applicable Laws. The Affected Party shall exercise all reasonable efforts to mitigate or limit damages to the other Party.

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18.0 SCHEDULES / ANNEXURES:

The Schedules detailed below shall form part of this Agreement.

- Schedule - I - Annual Contracted Quantity (ACQ)
- Schedule - II - Bank Guarantee Format for the Security Deposit Submission
- Schedule - III - Quality of Coal
- Schedule - IV - IRLC stipulations
- Schedule - V - Detailed modalities for joint sampling
- Schedule - VI - Procedure for segregation and separate stacking of stones of +250 mm size at the Power Station and its joint assessment by the Purchaser and the Seller
- Schedule-VII - Option letter for acceptance / surrender of coal supplies to be made through import of coal

19.0 MISCELLANEOUS:

- 19.1 **Notice** : Any notice to be given under this Agreement shall be in writing and shall be deemed to have been duly and properly served upon the Parties hereto if delivered against acknowledgement or by registered mail with acknowledgement due, addressed to the signatories or the authorised representatives of the signatories nominated in accordance with the provisions of this Agreement at the following addresses:

1) **Seller's address**

2) **Purchaser's address**

Designation: Director Technical (Oprn)
Address: Jagriti Vihar, Burla,
Sambalpur-768020
Odisha
Telephone: 0663- 2542775
Fax: 0663- 2542360
Email: dt_mcl@yahoo.co.in

Designation: Vice President (Coal),
Address: Hinduja House, 171,
Dr. Annie Besant Road, Worli
Mumbai- 400018
Telephone: 07738569938/ 022-24960707
Fax: 022-24960747
Email: pk.hnp@hindujagroup.com

- 19.2 **Amendment:** This Agreement cannot be amended or modified except by prior written agreement between the Parties.
- 19.3 **Severability and Renegotiation:** In the event any part or provision of this Agreement becomes, for any reason, unenforceable or is declared invalid by a competent court of law or tribunal, the rest of this Agreement shall remain in full force and effect as if the unenforceable or invalid portions had not been part of this Agreement, and in such eventuality the Parties agree to negotiate with a view to amend or modify this Agreement for achieving the original intent of the Parties.
- 19.4 **Governing Law:** This Agreement, and the rights and obligations hereunder shall be interpreted, construed and governed by the laws of India. The courts of Odisha shall have exclusive jurisdiction in all matters under this Agreement.
- 19.5 **Entirety** : This Agreement together with any documents referred to in it, supersedes any and all oral and written agreements, drafts, undertakings, representations, warranties and understandings heretofore made relating to the subject matter hereof and constitutes the entire Agreement and understanding of the Parties relating to the subject matter hereof. It is expressly agreed that this Agreement shall supersede all previous discussions and meetings held and correspondence exchanged between the Seller & the Purchaser in respect of this Agreement and any decisions arrived at therein in the past and before coming into force of this Agreement shall have no relevance with reference to this

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Agreement and no reference of such discussions or meetings or past correspondence shall be entertained either by the Seller or the Purchaser for interpreting this Agreement or its implementation.

- 19.6 **Counterpart:** This Agreement may be executed in any number of counterparts and each counterpart shall have the same force and effect as the original instrument.
- 19.7 **Assignment:** The Purchaser shall not, without the express prior written consent of the Seller, assign to any third party this Agreement or any part thereof, or any right, benefit, obligation or interest therein or there under.
- 19.8 **Limitation of Liability:** The Parties agree that except as otherwise expressly agreed in this Agreement, neither Party shall have any right or entitlement to any consequential losses, costs or damages, loss of profit or market, as a result of a breach by the other Party of this Agreement

20.0 IMPLEMENTATION OF THE AGREEMENT

- 20.1 The respective **Project Head** of the Power Station or his nominated representative shall be authorised to act for and on behalf of the Purchaser.
- 20.2 GM (Sales) or any representative duly authorized by the Seller shall act for and on behalf of the Seller.
- 20.3 Any other nomination of authorised representative shall be informed in writing, by the Seller and the Purchaser, as the case be, within one month of signing of this Agreement or by giving 30 (thirty) days' notice.
- 20.4 It shall be the responsibility of the Parties to ensure that any change in the address for service or in the particulars of the designated representative is notified to the other Party and all other concerned, before effecting a change and in any case within two (2) Business Days of such change.

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21.0 SAVINGS

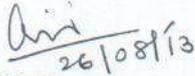
Notwithstanding anything contained herein, this FSA shall not be applicable to purchaser(s) having/seeking tapering linkage(s) and/or Purchaser(s) having PPA(s) of whatever duration permitting sale/supply of electricity at non-regulated rate or market driven price.

[Note: For consumers of Western Coalfields Limited (WCL), relevant amendments to Clauses 4.7, 4.11.1 and 7.1 would need to be made to bring into effect the different practices followed by WCL with respect to these clauses].

Signed in presence of the witness /witnesses under mentioned on 26th day of August 2013.

For Mahandi Coalfields Limited

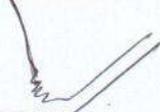
Signature



Name: A.K. TIWARI
Designation: DIRECTOR (Operation)
Address: MCL, Jagriti Vihar,
Burla-768020, Sambalpur, Odisha

Telephone: 0663- 2542775
Fax: 0663- 2542360
Email: dt_mcl@yahoo.co.in

1. WITNESS

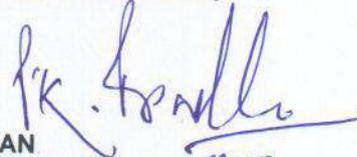
- a) Signature 
b) Name: S. SHEKHAR
c) Address & Occupation: G.M. (S&M)
Jagriti Vihar, Sambalpur

2. WITNESS

- a) Signature 
b) Name: R.K. MAJHEE
c) Address & Occupation: S.M. (S&M)
Jagriti Vihar, Sambalpur

For Hinduja National Power Corpn.
Limited

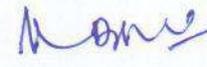
Signature



Name: P.K. PRADHAN
Designation: VICE PRESIDENT (Coal)
Address: Hinduja House, 173
Dr. Annie Besant Road, Worli,
Mumbai- 400018

Telephone: 07738569938/ 022-24960707
Fax: 022-24960747
Email: pk.hnp@hindujagroup.com

1. WITNESS

- a) Signature 
b) Name: M. B. Rai
c) Address & Occupation: DGM, HNPCL,
Angul, Orissa

2. WITNESS

- a) Signature 
b) Name: B. Sahoo
c) Address & Occupation: Dy. Manager,
HNPCL, Angul, Orissa



Schedule-I

Annual Contracted Quantity
(Refer Clause 3.1)

Sl. No.	Name & location of the Power Plant owned by Purchaser	Unit wise Installed Capacity of the Power Station (in MW)	Balance life** of plant/unit in Years (w.e.f. 31.03.2014)	Name of Rake Fit Station	Original LOA Quantity (Lakh Tonnes)	Annual Contracted Quantity (Lakh Tonnes)	Mode of Transport	Source Coal field of the Seller*
1	Hinduja National Power Corporation Limited, Vizag TPP located at Vill. Pallavalasa, Dist. Visakhapatnam, Andhra Pradesh	Unit- 1 520 MW Unit- 2 520 MW	<u>35 years</u> <u>35 years</u>	Pallavalasa Near Vizag	46.24	46.24	Rail	Any Coalfield / Mines of MCL

* Details of Imported Coal shall be furnished by the Seller to the Purchaser from time to time as and when such Coal is offered.

** Balance life of the Plant/Unit shall be as determined by appropriate authority of Govt. of India / as declared by way of "Self Declaration" by the authorized signatory of the Purchaser as per Prescribed Format of CIL

**LOA Quantity means the quantity mentioned in the Letter of Assurance (LOA) issued by the Seller to the Purchaser.

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Schedule-II

**BANK GUARANTEE FORMAT
FOR SECURITY DEPOSIT
(Refer Clause 3)**

On Rs. 50/- Non judicial Stamp Paper

Date of Issue: -----

Effective Date: -----

Expiry Date: -----

Value of B.G: -----

1. The Chairman – cum- Managing Director,
Coal India Limited,
10, Netaji Subhash Road, Kolkata – 700 001
2. The Chairman-cum-Managing Director
Mahanadi Coalfields Ltd., Jagriti Vihar, Burla, Sambalpur-768020.
3. General Manager (Sales & Marketing),
Mahanadi Coalfields Ltd., Jagriti Vihar, Burla, Sambalpur-768020.

In consideration of Coal India Limited of 10, Netaji Subhash Road, Kolkata – 700 001/
_____ (name of the subsidiary Company) having its Registered Office
at _____ (regd. address of the subsidiary Company)
and Sales Office at _____ (address of the sales office of the subsidiary Company)
(hereinafter referred to as 'Seller', which expression shall unless excluded by or
repugnant to the subject or context, include its legal representatives, successors and
permitted assigns) having agreed to supply Coal/Imported Coal to
_____ (Name of the Company/ Partnership firm/ Proprietor) having its
registered office at _____ (address of the Company/
Partnership firm/ Proprietor) (hereinafter referred to as the 'Purchaser', which term shall
unless excluded or repugnant to the subject or context include its legal representatives,
successors and permitted assigns in case of Company) and, the Purchaser being
required to furnish the Security Deposit as per the terms of the Fuel Supply Agreement
(FSA)

We, _____ (Name and address of the Bank), having its Head Office at
_____ (Address of the Head Office of the Bank) (hereinafter called
the Guarantor, which expression shall, unless repugnant to the context or meaning
thereof, include its successors, administrators, executors and assigns) do hereby
irrevocably and unconditionally guarantee and undertake to pay Seller or such other
place or places as may be directed by the Seller all amounts payable by the Purchaser to
the extent of Rs. _____/- (Indian Rupees _____) at
any time upto _____ (date that is sixty-four (64) months
from the date of issue of the Bank Guarantee) subject to the following terms and
conditions :-

- 1) The Guarantor shall pay to the Seller on demand and without any demur, reservation,
contest, recourse or protest and/ or without any reference to the Purchaser. As to
whether the occasion or ground has arisen for such demand, the decision of the Seller
shall be final.

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- 2) The Seller shall have the fullest liberty without reference to the Guarantor and without affecting this guarantee to postpone at any time or from time to time the exercise of all or any of its powers and rights under arrangement made with the Purchaser, and the Guarantor shall not be released from this guarantee by any arrangement between the Seller and the Purchaser or any alteration thereof made with or without the consent of the Guarantor or by exercise or non-exercise by the Seller of all or any of its powers and rights against the Purchaser, or any other forbearance, act of omission on the part of the Seller or indulgence granted by or on behalf of the Seller to the Purchaser, which under the law relating to surety ship would but for this provision have the effect of releasing the Bank as Guarantor from their obligations under this guarantee.
- 3) The guarantee herein contained shall not be determined or affected by the winding up or insolvency of the Purchaser, but shall in all respects and for all purpose be binding and operative until all monies due to the Seller in respect of all liability or liabilities of the Purchaser are fully paid.
- 4) It is also agreed that Seller will be entitled at its option to enforce this guarantee against the Guarantor as principal debtor in the instance notwithstanding any other security or guarantee that the Seller may have in relation to the Purchaser's liability.
- 5) The Guarantee will remain valid for a period of sixty-four (64) months from the date hereof and to such further period, as may be required and agreed by the Parties and agreed by the Guarantor before the expiry of the aforesaid validity.
- 6) The Guarantee shall cover all claims or demand of Seller to the extent of the amount guaranteed.
- 7) Notwithstanding anything contained, the liability of the Guarantor under this Agreement is restricted to Rs. _____/- (Indian Rupees _____), and the same will remain in force upto and including the day of _____ (date that is sixty-four (64) months from the issue of the Bank Guarantee) and to such further period, as may be required and agreed by the Parties and agreed by the Guarantor before the expiry of the aforesaid validity.
- 8) This guarantee can be enforced by Seller any number of times for their claims or demand to the total extent of Rs. _____/- (Indian Rupees _____), as long as it remains in force.
- 9) Unless a demand or claim under this guarantee is received by the Guarantor in writing within the period mentioned in clause 5 and 7 hereof, all rights of the Seller shall be forfeited and the Guarantor shall be relived or discharged from all liabilities.
- 10) The guarantee is operative at our ----- (name and address of the branch) Branch, _____ (Place).

Signature of the Bankers
With date & Rubber Stamp

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Schedule-III

Quality of Coal
(Refer Clause 4.1)

Sl. No.	Name & Location of the Power Plant owned by the Purchaser	Top-size of Coal (mm)	Grade(s) as mentioned in LOA on UHV basis	Corresponding Grades in terms of equivalent GCV
1	Hinduja National Power Corporation Limited, Vizag TPP located at Vill. Pallavalasa, Dist. Visakhapatnam, Andhra Pradesh	(-)100 / (-)250 mm	F	G10- G13

* Details of Imported Coal shall be furnished by the Seller to the Purchaser from time to time as and when such Coal is offered.

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Schedule-IV

**IRLC Stipulations
(Refer Clause 12.1.2(b))**

In the event the Purchaser opts to submit IRLC, as per the payment provisions laid down in Clause 12.1.2 (b), the IRLC shall conform to the following conditions:

1. The underlying amount of IRLC shall be equivalent to As Delivered Price of Coal for the Coal quantities that is one-ninth (1/9th) of the QQ concerned, as per Clause 4.4. Further, the As Delivered Price of Coal in this context shall take into account the highest Base Price of the Grades mentioned in Schedule III.
2. The underlying amount of IRLC shall be suitably changed whenever there is a change in any component of the As Delivered Price of Coal.
3. The term of the IRLC shall be for a minimum period of one year, and the same shall be renewed one month prior to its expiry so as to remain valid throughout the term of the Agreement.
4. 100% payment shall be released in favour of the Seller against the bills/ invoices duly signed and submitted by the Seller.
5. IRLC shall be automatic without any reinstatement clause; accordingly the amount of each drawl shall be automatically reinstated.
6. IRLC shall be issued by a bank acceptable to the Seller
7. All IRLC charges including those related to opening, establishment, negotiation, re-instatement, amendment or any other incidental charges shall be borne by the Purchaser
8. All documents drawn under this IRLC shall be in English language only.
9. All amounts under this IRLC shall be payable at Sambalpur.
10. There shall be no restriction for the number of drawls in a month.

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SCHEDULE -V

Detailed modalities for joint sampling

1.0 Modalities for collection, handling, storage and preparation of joint samples:**1.1 General**

- a) Sample shall be collected source wise, grade wise and Power station wise.
- b) Samples shall be collected, packed and transported in such a manner so as to make these tamper proof to the satisfaction of Seller and Purchaser for which detailed procedure may be worked out at sampling sites jointly by representatives of Seller and Purchaser.
- c) Name the colliery / siding / Power Station, date of collection and other identification details (eg. Rake no. in case of rail supply) shall be maintained in a register and a proper code number shall be assigned for each sample for identification and reconciliation of results.
- d) Laboratory samples prepared shall be in the size of 12.5 mm for Total Moisture and for ash, moisture and GCV analysis 212 micron IS Sieve. Precaution shall be taken so that before analysis, in test laboratory, further sieving or pulverizing is not required.
- e) Proper analysis records shall be maintained at the laboratories where the samples are analysed.
- f) Samples collected at the loading end shall be analysed as per BIS Standards (IS:1350 Part I – 1984) for determination of ash and moisture content and as per (IS:1350Part-II-1970) for GCV.
- g) Monthly statements containing the details of each and every analysis result finalized during a month based on joint analysis, as the case may be, shall be prepared indicating inter-alia the quantity of Coal covered by the respective analysis results. Such monthly statements shall be duly authenticated jointly, as applicable and respective analysis results shall be applied to the corresponding quality of Coal for billing/ commercial purpose.
- h) The final pulverized sample shall be divided into two equal parts. One part shall be kept for analysis at the Seller's laboratory at loading end and the second part will be retained as stand-by sample under the joint custody and seal of Seller and Purchaser at the loading end.
- i) Samples drawn at loading ends shall be analysed in designated laboratories at loading end in the presence of Seller and Purchaser.
- j) The samples shall be identified jointly at the time of analysis in the laboratory by the code number already assigned as per clause 1.1(c).

1.2 COLLECTION OF SAMPLES FROM WAGONS:

- a) In case of dispatch by Rail each rake (source wise, grade wise and Power Station wise) of Coal supplied from one Delivery Point shall be considered as a Lot for the purpose of sampling.

Model FSA – PPU (New) – Nov.12 modified upto 08.08.2013 (CIL
letter.no.CIL:S&M:CMO:47252(NewPol):626 dated 08.08.2013)

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- b) In case of Coal dispatches through MGR the sample collected from each rake (source wise, grade wise and Power Station wise) loaded from the respective Delivery Point during the day shall be pooled together and shall be considered as a lot for the purpose of sampling.
- c) Each rake shall be divided into sub-lots in a manner that the quantity of Coal/number of wagons in such sub-lots is more or less equal. The number of sub lots shall be determined as under :

No. of wagons in the rake	Number of sub lots
Up to 30 wagons	4
>30 wagons up to 50 wagons	5
>50 wagons and above	6

- d) From each of the sub lots one wagon each shall be selected as per random table in IS: 436 (Part I/Section I) 1964 or its latest version for collection of increments.
- e) In each wagon selected for sampling, the sample will be drawn from the spot in a manner so that if in one wagon the sample is collected at one end, in the next wagon the spot will be in the middle of the wagon and in the third wagon at the other end and this sampling procedure will be repeated for subsequent wagons.
- f) Before collecting the samples, the spot will be leveled and at least 25 cm of Coal surface shall be removed/ scrapped from the top and the place will be leveled for an area of 50 cm by 50 cm.
- g) About 50 kg of sample shall be collected from each selected wagon in the rake of a source by drawing 10 increments of approx. 5 kg each with the help of shovel/scoop.
- h) Any stone/shale of size more than that indicated in Schedule-III shall be removed/discarded, however all stones/ shale of size in terms of Schedule-III shall form part of the sample collected.
- i) Source wise, grade wise and Power Station wise Samples collected from all the selected wagons in a rake shall be mixed (grade wise/source wise/Power Station wise) separately to form Gross Sample accordingly.
- j) Item (d) to (g) above shall be applicable for Coal supplied in box wagons as well as BOBR wagons where there is no live overhead traction line.
- k) In case of having live overhead traction line, the parties shall ensure that the power supply in the over head traction is switched off to facilitate collection of joint samples from BOX / BOBR wagons pursuant to points (d) to (g) above.

1.3 COLLECTION OF SAMPLES OF COAL DESPATCHES BY ROAD

- a) Sample shall be collected colliery wise / grade wise on daily basis during a day i.e. 6.00 Hr to 18.00 Hr
- b) The first truck for joint sampling on a day shall be selected randomly from the first eight trucks placed for loading by the Purchaser. Every eighth (8th) truck there after shall be subjected to joint sampling.
- c) The spot at the top of the truck will be leveled and at least 25 cm of Coal surface shall be removed/ scrapped from the top and the place will be leveled for an area of 50 cm by 50 cm for collection of sample.

Model FSA – PPU (New) – Nov.12 modified upto 08.08.2013 (CIL
letter.no.CIL:S&M:CMO:47252(NewPol):626 dated 08.08.2013)

Air



- d) About 30 kg of sample shall be collected from each truck by drawing 6 increments of approx. 5 kg each with the help of shovel/scoop.
- e) All the samples collected from every eighth truck shall be mixed together grade wise to form a Gross Sample.
- f) Any stone/shale of size more than that indicated in Schedule-III shall be removed/discarded, however all stone / shale of size as mentioned in Schedule III shall form the part of the sample collected.

1.4 COLLECTION OF SAMPLES FROM CONVEYOR BELT

- a) In case of supply by conveyer belt sample shall be collected in increments of full cross section and thickness of the stream in one operation in a regular interval of time as mutually decided by both Seller and Purchaser and lot shall consist of samples so collected during a day i.e. 0.00 Hr to 0.00 Hr. of the following day.
- b) Before collecting the increments, the speed of the conveyer and quantum of material passing a certain point in a given time shall be ascertained so that an appropriate spacing of time between increments may be arranged over the whole of the lot.
- c) If it is practicable to stop the belt periodically, increment may be collected from the whole cross section of the stream by sweeping the whole of the Coal lying between the sides of a suitable frame placed across the belt. The frame should be inserted in the Coal until it is in contact with the belt across its full width.
- d) Minimum 150 kgs of samples to be collected for daily Gross Sample.

1.5 COLLECTION OF SAMPLES FROM STOCKPILE

- a) For the purpose of sampling, the quantity of Coal in the stock pile shall be divided into a suitable manner of sub-lots as specified in the following table:

Weight of the lot (MT)	No. of Sub-lots
Up to 500	2
501 to 1000	3
1001 to 2000	4
2001 to 3000	5
Over 3000	6

- b) The surface of each sub-lot shall be leveled and one point for approximately every 250 MT of material in the sub-lots shall be chosen at random for taking gross sample as per the following procedure:
 - i. In case height of the stock pile is not more than 1.5 metre, the material shall be collected at every selected point by taking the whole section of Coal from top to bottom over the area of a circle of 30 cm diameter.
 - ii. In case the height of the stock pile is more than 1.5 metre, the sample shall be collected at every selected point by taking the material over an area of a circle of 30 cm diameter and up to a depth of 1.5 metre.

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1.6 PREPARATION OF MANUALLY COLLECTED SAMPLES:

- 1.6.1 The Gross Sample collected will be divided into two portions. One portion (one fourth of the Gross Sample) called Part-1 will be used for analysis of Total Moisture and the other portion (three fourth of the Gross Sample) called Part-2 for determination of ash, moisture and GCV on Equilibrated basis.
- 1.6.2 The Part-2 Sample shall be jointly reduced into laboratory sample on the date immediately following the date of collection. The final laboratory samples will be divided into two parts viz. Set – I and Set – II.
- Set – I shall be used for joint analysis of ash, moisture and GCV at loading end as per BIS standards IS 1350 Part 1-1984 and IS 1350 Part-II-1970 as applicable.
 - Set – II shall be kept under joint seal as stand-by sample in the safe custody for a period of fourteen days or until the analysis results of Set – I are accepted without dispute, whichever is earlier.
- a) The Gross Samples for each Delivery Point shall be separately crushed to (-) 5 cm by mechanical means, mixed thoroughly, coned and quartered.
 - b) Two opposite quarters shall be retained and the rest rejected.
 - c) The retained material shall be further mixed, halved and one half retained.
 - d) Material so obtained shall be crushed to 12.5 mm by a Jaw Crusher and then to 3.3 mm by a palmac type of reduction mill/ or jaw crusher.
 - e) The crushed material shall be reduced either by coning and quartering or by ruffling to 2 kgs..
 - f) The sample so reduced shall be finally ground to pass through 212 micron IS sieve using a Raymond mini mill.
 - g) From the final sample passing through 212 micron IS sieve, 1.5 Kg shall be taken, which shall constitute the laboratory sample.
 - h) Such laboratory sample shall be divided into two equal i.e. Set-I and Set-II as mentioned at 1.4.2. The sample shall be kept in glass or polythene container.
 - i) All tools and tackles, plastic bags, sealing compound and other items required for collection, preparation, storage and analysis of the sample shall be provided by the Seller.

2.0 PREPARATION OF TOTAL MOISTURE SAMPLE AND DETERMINATION OF TOTAL MOISTURE:

- a) Part – 1 Sample shall be analysed jointly at the Delivery Point for determination of Total Moisture as per IS: 1350(Part –I) - 1984.
- b) For rail supplies, rake wise Surface Moisture shall be determined at loading end. For supplies by modes other than rail, Surface Moisture shall be determined jointly at loading end on daily basis.

Ais



- c) The samples shall be divided into two parts and shall be sealed in two previously weighed air tight plastic containers duly labeled and coded as Set-I™ and Set-II™ (the weight shall include any sealing material to be used also) immediately. Weight of each part of such sample shall be minimum 5 kg. The second set Set-II™ of Coal samples shall be set aside as stand-by sample. All the containers shall be sealed at the time of sample collection in such a manner that there is no loss of moisture. All the containers, after the collection of the sample and sealing, shall be individually weighed. All the weights, before and after the collection of samples shall be jointly recorded.
- d) An empty tray measuring 4 feet x 3 feet shall be weighed. The sample for joint analysis shall be spread in this tray. The weight of Coal of the tray shall be recorded.
- e) This tray containing the sample shall be kept under joint lock in a room/laboratory furnished with either ceiling fans or with exhaust fan for drying the sample for 24 hours. If the sample is not reasonably dry the period of drying may be extended to further periods of 24 hours, till the sample is dry.
- f) The tray shall be weighed again and weight noted. Again the sample shall be kept for drying for about 2 hours and again weighed and this process shall be repeated till constant weight is achieved. This would normally take 2-4 hours. The final weight shall be taken and loss in weight that is W1 in the 1st stage of air drying shall be recorded.
- g) This sample shall now be crushed to -12.5 mm size in a crusher. Coning and quartering shall be done to reduce the sample quantity to 5 kg..
- h) This sample of -12.5 mm of approximately 5 kg shall be weighed and kept in an oven at ambient temperature of 38°C for about 2 hours. Again weight shall be taken and the process of heating cooling and weighing shall be continued till constant weight is reached.
- i) The loss in weight shall be recorded as W2 that is the loss of weight after 2nd stage drying.
- j) This sample of approximately 5 kg after the 2nd stage of drying shall be crushed to -3.35 mm size and the same shall be reduced to half Kg. by quartering and coning.
- k) Out of the half kg of sample 10 gms of Coal sample shall be taken in a weighed glass dish and kept in the drying oven at 108 +/- 2°C for about 90 minutes.
- l) The dish shall be cooled and weighed. Heating, cooling and weighing shall continue till constant weight is reached.
- m) The loss of weight shall be recorded as W3 that is the weight loss in 3rd stage drying.
- n) Based on the above procedure, the Total Moisture shall be computed jointly.
- o) All tools and tackles, plastic bags, sealing compounds and other items required for collection, preparation, storage and analysis of the sample shall be provided by the Seller.

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SCHEDULE – VI

Procedure for segregation and separate stacking of stones of +250 mm size at the Power Station and its joint assessment by the Purchaser and the Seller

- 1) The stones segregated from Coal supplies received from Seller during a month at the power plant end shall be collected and stacked separately by Purchaser at a suitable location identified mutually by the Purchaser and Seller.
- 2) Such materials will be stacked in a manner that the same can be measured properly for volume.
- 3) (a) Such material collected and stacked during a month shall be loaded into trucks and weighed at nearest weighbridge to determine weight of such material received during the month.

(b) In the event entire stock of such material cannot be weighed as per 3 (a) of the schedule, at least 5 trucks of such material loaded from the heap on random basis shall be weighed at the nearest weighbridge to determine the volumetric conversion ratio of such material, i.e. weight per unit of volume. The same conversion ratio will be applied for determining total weight of the heap of such material. The heap containing the entire stock in such cases shall be measured for volume prior to loading in the trucks and the same recorded jointly.
- 4) Two trucks of such material weighed as above will be randomly selected and unloaded at an identified place near the heap and material of +250 mm size will be manually segregated. After such segregation, the same will be weighed at the nearest weighbridge to establish the percentage of material +250mm size in the sample. This percentage will be applied to the total weight of heap determined as per 3(b) to find the weight of material +250 mm size in the heap.
- 5) After determination of weight pursuant to Clause 3 of this Schedule, the stones shall be disposed off by the Purchaser at a suitable place.
- 6) All infra-structural arrangements including for tools, tackles, equipments, trucks and manpower shall be arranged and provided by Purchaser at their own cost.
- 7) The Purchaser shall provide access to the Seller for examination of all documents / records pertaining to the above claim, if the Seller so desires.

Ari



Annexure I

Company: Hinduja National Power Corporation Ltd (HNPC)

a. Security: Detailed in Annexure II

b.	Insurance	: All items of stocks and fixed assets have to be adequately insured for invoice value/market value whichever is higher with suitable Bank's clause. Entire stocks & fixed assets hypothecated to the bank to be fully insured against risks such as theft/burglary, fire, Riots, Natural Calamities and Fidelity of staff for invoice value / market value whichever is higher with suitable Bank's clause. The Bank shall not be liable for any consequence arising from non-renewal of insurance in any year even if the Bank has in any previous year renewed the insurance of the hypothecated assets by debiting the borrower's account for failure of the Borrower to renew such insurance policy.																				
c.	ECGC	: Not Applicable																				
d.	Pricing <table border="1"> <thead> <tr> <th>Facility</th> <th>Rate of Interest</th> </tr> </thead> <tbody> <tr> <td>CC</td> <td>1.70% above MCLR – 6 M rate, present effective rate being 10.15% subject to half yearly reset</td> </tr> <tr> <td>Term Loan</td> <td>2.50% above MCLR – 6 M. Present effective rate being 10.90% subject to half yearly reset 10.95% as per instructions</td> </tr> <tr> <td>Corporate Loan</td> <td>2.70% above MCLR – 6 M, Present effective rate being 11.10% subject to half yearly reset</td> </tr> <tr> <td>Periodicity of MCLR reset</td> <td>Half Yearly</td> </tr> </tbody> </table> <p>Our rate of interest will not be lower than other working capital lenders in consortium.</p>		Facility	Rate of Interest	CC	1.70% above MCLR – 6 M rate, present effective rate being 10.15% subject to half yearly reset	Term Loan	2.50% above MCLR – 6 M. Present effective rate being 10.90% subject to half yearly reset 10.95% as per instructions	Corporate Loan	2.70% above MCLR – 6 M, Present effective rate being 11.10% subject to half yearly reset	Periodicity of MCLR reset	Half Yearly										
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सत्यमेव जयते

भारत का राजपत्र

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भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 31 दिसम्बर, 2021

का.आ. 5481(अ).—केन्द्रीय सरकार ने भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से तीन सौ किलोमीटर के विनिर्दिष्ट व्यास के भीतर ईंटों के विनिर्माण के लिए उपजाऊ मिट्टी के उत्खनन को प्रतिबंधित करने के लिए और भवन निर्माण सामग्री के विनिर्माण में और संनिर्माण क्रियाकलाप में फ्लाई-राख के उपयोग को बढ़ावा देने के लिए निदेश जारी किए हैं;

और, प्रदूषणकर्ता भुगतान सिद्धांत (पीपीपी) के आधार पर, ऐसा करके कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा फ्लाई-राख का 100 प्रतिशत उपयोग सुनिश्चित करते हुए और फ्लाई-राख प्रबंधन प्रणाली की संधारणीयता के लिए पूर्वोक्त अधिसूचना को और अधिक प्रभावकारी ढंग से कार्यान्वित करने हेतु, केन्द्रीय सरकार ने मौजूदा अधिसूचना की समीक्षा की;

और प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर पर्यावरणीय प्रतिकर निर्धारित किए जाने की आवश्यकता है;

और, विनिर्माण को बढ़ावा देकर तथा निर्माण कार्य के क्षेत्र में राख आधारित उत्पादों तथा भवन निर्माण सामग्रियों के प्रयोग को अनिवार्य करके उपजाऊ मिट्टी को संरक्षित करने की आवश्यकता है;

और, सड़क बनाने, सड़क एवं फ्लाई ओवर के रेलिंग बनाने, तटरेखा की सुरक्षा का उपाय करने, अनुमोदित परियोजनाओं के निचले क्षेत्रों को भरने, खनित स्थलों को फिर से भरने में मिट्टी की सामग्रियों से भरने के विकल्प के रूप में राख उपयोग को बढ़ावा देकर उपजाऊ मिट्टी और प्राकृतिक संसाधनों को संरक्षित करने की आवश्यकता है;

और, पर्यावरण को सुरक्षित करना तथा कोयला अथवा लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित फ्लाई राख के निक्षेपण तथा निपटान की रोकथाम करना आवश्यक है;

और, उक्त अधिसूचना में जो 'राख' शब्द का प्रयोग किया गया है उसमें कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित फ्लाई-राख और बॉटम-राख दोनों शामिल हैं;

और, केंद्रीय सरकार प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर, पर्यावरणीय प्रतिकर की प्रणाली सहित राख के उपयोग के लिए एक व्यापक ढांचा लाना चाहती है;

अतः पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, भारत सरकार के पर्यावरण एवं वन मंत्रालय की अधिसूचना जो का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा भारत के राजपत्र, असाधारण भाग II, खंड 3, उप खंड (i) में प्रकाशित का अधिक्रमण करते हुए, कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा राख के उपयोग के संबंध में प्रारूप अधिसूचना जो सा.का.नि. 285 (अ) तारीख 22 अप्रैल, 2021 द्वारा भारत के राजपत्र, असाधारण, भाग-2, धारा 3, उप धारा (i) में प्रकाशित की गई थी जिसमें उन सभी व्यक्तियों से जिनका इससे प्रभावित होना सामान्य है उस तारीख से, जिसको उक्त प्रारूप उपबंधों की शासकीय राजपत्र में अंतर्विष्ट प्रतियां जनता को उपलब्ध करा दी गई थी, साठ दिनों के अवसान से पूर्व आक्षेप और सुझाव आमंत्रित किए गए थे।

और उक्त प्रारूप अधिसूचना के संबंध में उससे संभावित तौर पर प्रभावित होने वाले सभी व्यक्तियों से प्राप्त आक्षेपों और सुझावों पर केंद्रीय सरकार द्वारा सम्यक रूप से विचार कर लिया गया है;

अतः पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और अधिसूचना का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 का उन बातों के सिवाय अधिकांत करते हुए जिन्हें ऐसे अधिक्रमण से पूर्व किया गया है या करने का लोप किया गया है, केन्द्रीय सरकार कोयलों या लिग्नाइट आधारित ताप विद्युत संयंत्रों से राख के उपयोग के संबंध में निम्नलिखित अधिसूचना जारी करती है, जो इस अधिसूचना के प्रकाशन की तिथि से प्रवृत्त होगी, अर्थात्

क. फ्लाई-राख और बॉटम-राख का निपटान करने हेतु ताप विद्युत संयंत्रों (टीपीपी) के उत्तरदायित्व.-

(1) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र (जिनमें कैप्टिव और/या सह-उत्पादन केंद्र शामिल हैं या दोनों) की यह प्राथमिक जिम्मेदारी होगी कि वह अपने द्वारा सृजित राख (फ्लाई-राख और बॉटम-राख) का उप पैरा (2) में दिए गए पारि-अनुकूल तरीके से 100 प्रतिशत उपयोग सुनिश्चित करे;

(2) कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित राख का उपयोग केवल निम्नलिखित पारि-अनुकूल प्रयोजनों के लिए किया जाएगा, अर्थात्:-

- (i) फ्लाई राख पर आधारित उत्पाद अर्थात्: ईट ब्लॉक टाइल, फाइबर सीमेंट शीट, पाइप, बोर्ड, पैनल का विनिर्माण;
- (ii) सीमेंट विनिर्माण, रेडी-मिक्स कंक्रीट;

- (iii) सड़क निर्माण और फ्लाई-ओवर के रेलिंग का निर्माण, राख और जिओ-पॉलीमर आधारित निर्माण सामग्री;
- (iv) बांध का निर्माण;
- (v) निचले क्षेत्र को भरना;
- (vi) खनन कार्य से रिक्त हुए स्थान को भरना;
- (vii) सिंटेड या शीत-बद्ध राख संचय का विनिर्माण;
- (viii) मृदा परीक्षण के आधार पर नियंत्रित तरीके से कृषि;
- (ix) तटीय जिलों में तटरेखा संरक्षण संरचनाओं का निर्माण;
- (x) अन्य देशों को राख का निर्यात;
- (xi) समय-समय पर यथाधिसूचित किसी अन्य पारि-अनुकूल प्रयोजन के लिए।
- (3) अध्यक्ष, केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति गठित की जाएगी जिसमें पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफसीसी), विद्युत मंत्रालय, खान मंत्रालय, कोयला मंत्रालय, सड़क परिवहन और राजमार्ग मंत्रालय, कृषि अनुसंधान एवं शिक्षा विभाग, सड़क कांग्रेस संस्थान तथा राष्ट्रीय सीमेंट एवं भवन सामग्री परिषद के प्रतिनिधियों को सदस्यों के रूप में शामिल किया जाएगा, जिसका प्रयोजन राख के उपयोग के पारि-अनुकूल तौर-तरीकों की जांच करना, उनकी समीक्षा एवं अनुशंसा करना तथा प्रौद्योगिकीय विकासों तथा पणधारी से प्राप्त अनुरोधों के आधार पर उप-पैरा (2) में यथोल्लिखित ऐसे तौर-तरीकों की सूची में समिति द्वारा सुझाए गए तौर-तरीकों को शामिल करना या किसी तौर-तरीके को सूची से हटाना या उसमें संशोधन करना है। जब भी इस प्रयोजन के लिए अपेक्षित हो, यह समिति राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति, ताप विद्युत संयंत्र और खानों के प्रचालकों को आमंत्रित कर सकती है। इस समिति सिफारिश के आधार पर, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय ऐसे पारि-अनुकूल प्रयोजन प्रकाशित करेगा।
- (4) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र उस वर्ष के दौरान सृजित राख (फ्लाई-राख और बॉटम-राख) का 100 प्रतिशत उपयोग करने हेतु उत्तरदायी होगा; तथापि, किसी भी स्थिति में, किसी वर्ष में राख का उपयोग 80 प्रतिशत से नीचे नहीं होगा और साथ ही, उस ताप विद्युत संयंत्र को तीन वर्ष की अवधि में 100 प्रतिशत औसत राख के उपयोग का लक्ष्य प्राप्त करना होगा :

परंतु, यह और कि पहली बार के लिए लागू तीन वर्ष के चक्र को ऐसे ताप विद्युत संयंत्रों, जहां राख का उपयोग 60-80 प्रतिशत के बीच होता है, एक वर्ष के लिए और ऐसे संयंत्रों, जहां राख का उपयोग 60 प्रतिशत से कम है, दो वर्ष के लिए बढ़ाया जा सकता है, और राख के उपयोग की प्रतिशतता की गणना के प्रयोजन के लिए वर्ष 2021-2022 में उपयोग की प्रतिशत प्रमात्रा को नीचे दी गई तालिका के अनुसार ध्यान में रखा जाएगा:

तापीय विद्युत संयंत्रों के उपयोग की प्रतिशतता	100 प्रतिशत उपयोगिता प्राप्त करने के लिए प्रथम अनुपालन चक्र	100 प्रतिशत उपयोगिता प्राप्त करने के लिए द्वितीय अनुपालन चक्र
>80 प्रतिशत	3 वर्ष	3 वर्ष
60-80 प्रतिशत	4 वर्ष	3 वर्ष
<60 प्रतिशत	5 वर्ष	3 वर्ष

परन्तु, ताप विद्युत संयंत्रों के लिए 80 प्रतिशत न्यूनतम उपयोग प्रतिशतता, क्रमशः 60-80 प्रतिशत और <60 प्रतिशत की उपयोगिता की श्रेणी के तहत आने वाले ताप विद्युत संयंत्रों के लिए प्रथम अनुपालन चक्र के पहले वर्ष और पहले दो वर्षों पर लागू नहीं होगी।

परन्तु, अनुपालन चक्र के अंतिम वर्ष में सृजित 20 प्रतिशत राख को अगले चक्र में भी ले जाया जाएगा जिसका उपयोग उस अनुपालन चक्र के दौरान सृजित राख के साथ अगले तीन वर्षों में किया जाएगा।

- (5) अप्रयुक्त संचित राख अर्थात् लीगेसी राख, जिसका इस अधिसूचना के प्रकाशन से पहले भंडारण किया गया है, को ताप विद्युत संयंत्र (टीपीपी) द्वारा इस रीति से क्रमिक रूप से उपयोग में लाया जाएगा, कि लीगेसी राख को इस अधिसूचना के प्रकाशन की तिथि से दस वर्षों के भीतर पूरी तरह उपयोग कर लिया जाएगा और यह उस विशिष्ट वर्ष के चालू संचालनों के माध्यम से राख उत्सर्जन के लिए निर्धारित उपयोग लक्ष्यों से अतिरिक्त होगा।

परन्तु, निम्नलिखित प्रतिशतताओं में यथा उल्लिखित लीगेसी राख की न्यूनतम मात्रा का उपयोग तास्थानी वर्ष के दौरान कर लिया जाएगा और लीगेसी राख की न्यूनतम मात्रा की ताप विद्युत संयंत्र की संस्थापित क्षमता के अनुसार वार्षिक राख उत्सर्जन के आधार पर की जानी है।

प्रकाशन की तिथि से वर्ष	पहला	दूसरा	तीसरा-दसवां
लीगेसी राख का उपयोग (वार्षिक राख की प्रतिशतता)	कम से कम 20 प्रतिशत	कम से कम 35 प्रतिशत	कम से कम 50 प्रतिशत

परन्तु, यह और कि लीगेसी राख का उपयोग वहां अपेक्षित नहीं है, जहां राख के तालाब या डाइक स्थिर हो गए हैं और हरित पट्टी के निर्माण या पौध रोपण से पुनरुद्धार किया गया है और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड इस संबंध में प्रमाणित करेगा। किसी राख तालाब या डाइक के स्थिरीकरण और भूमि-उद्धार का कार्य, जिसमें केन्द्रीय प्रदूषण नियंत्रण बोर्ड या राज्य प्रदूषण नियंत्रण बोर्ड द्वारा प्रमाणन शामिल है, इस अधिसूचना के प्रकाशन की तारीख से एक वर्ष के भीतर किया जाएगा। अन्य सभी राख के कुंड या डाइक में शेष बचे राख का उपयोग ऊपर उल्लिखित समय-सीमाओं के अनुसार क्रमिक रूप से किया जाएगा।

टिप्पण: राख के उपयोग के लक्ष्यों को हासिल करने के लिए उप पैरा (4) और (5) के अधीन दायित्व 01 अप्रैल, 2022 की तारीख से लागू होंगे।

- (6) किसी भी नए तापीय विद्युत संयंत्र (टीपीपी) में 0.1 हेक्टेयर प्रति मेगावाट (एमडब्ल्यू) क्षेत्रफल के साथ आपातकालीन या अस्थायी राख कुंड की अनुमति दी जा सकती है। राख के तालाब या डाइकों का तकनीकी विनिर्देश, केन्द्रीय विद्युत प्राधिकरण (सीईए) के परामर्श से केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा बनाए गए दिशानिर्देशों के अनुसार होगा और ये दिशानिर्देश राख के कुंड या डाइक के संबंध में इसकी सुरक्षा, पर्यावरणीय प्रदूषण, उपलब्ध प्रमात्रा, निपटान का तरीका, निपटान में जल की खपत या संरक्षण, राख जल पुनर्चक्रण और ग्रीन बेल्ट आदि के वार्षिक प्रमाणन के लिए कार्यविधि भी निर्धारित करेंगे और इस अधिसूचना के प्रकाशन की तारीख से तीन महीनों के भीतर प्रस्तुत किए जाएंगे।
- (7) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र यह सुनिश्चित करेगा कि राख की लदाई, उतराई, ढुलाई, भंडारण और निपटान पर्यावरणीय दृष्टि से अनुकूल रीति से किया गया है और वायु और जल प्रदूषण की रोकथाम के लिए सभी ऐहियत किए गए हैं और इस संबंध में स्थिति की सूचना इस अधिसूचना में संलग्न अनुबंध में संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को दी जाएगी।
- (8) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, संस्थापित क्षमता पर आधारित राख के कम से कम 16 घंटों के भंडारण के लिए समर्पित शुष्क फ्लाई राख साइलस प्रतिष्ठापित करेगा, जिनके पास पृथक पहुंच मार्ग होंगे, जिससे कि राख पहुंचाने के कार्य को सुगम बनाया जा सके। इसकी सूचना संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को उपाबंध में दी जाएगी और केन्द्रीय प्रदूषण नियंत्रण

बोर्ड (सीपीसीबी) या राज्य केन्द्रीय प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति द्वारा समय-समय पर निरीक्षण किया जाएगा।

- (9) प्रत्येक कोयला या लिग्नाईट आधारित तापीय विद्युत संयंत्र (जिसके अंतर्गत कैप्टिव या सह उत्पादन केन्द्र भी है या दोनों), वास्तविक उपयोगकर्ता (उपयोगकर्ताओं) के हित के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड के वेब पोर्टल या मोबाईल फोन एप्प का लिंक उपलब्ध कराकर ताप विद्युत संयंत्र के पास राख की उपलब्धता के वास्तविक आंकड़े प्रदान करेगा।
- (10) राख के 100 प्रतिशत उपयोग का वैधानिक दायित्व, जहां भी लागू हो, विधि में बदलाव के रूप में माना जाएगा।

ख. राख के उपयोग के प्रयोजनार्थ, उत्तरवर्ती उप पैराग्राफ लागू होंगे .-

- (1) ऐसे सभी अभिकरण (सरकारी, अर्द्धसरकारी और निजी), जो सड़क बिछाने, सड़क और फ्लाई ओवर के किनारों, तटीय जिलों में तटरेखा की सुरक्षा संरचनाओं और लिग्नाईट या कोयला आधारित ताप विद्युत संयंत्र से 300 किमी के भीतर बांधों जैसे निर्माण संबंधी कार्यकलापों में लगे हुए हैं, इन कार्यकलापों में अनिवार्य रूप से राख का उपयोग करेंगे :

परंतु इसको परियोजना स्थल पर निशुल्क पहुंचाया जाए और परिवहन लागत, ऐसे कोयला या लिग्नाईट आधारित ताप विद्युत संयंत्रों द्वारा वहन की जाए।

परंतु यह और कि ताप विद्युत संयंत्र पारस्परिक सहमत हुई शर्तों के अनुसार राख की लागत और परिवहन के लिए शुल्क ले सकता है उस मामले में जहां ताप विद्युत संयंत्र अन्य माध्यम से राख का निपटान करने में समर्थ है और ये अभिकरण इसके लिए प्रार्थना कर सकते हैं और बिना लागत और बिना परिवहन शुल्क के राख उपलब्ध कराने के प्रावधान तभी लागू होंगे यदि उसके लिए ताप विद्युत संयंत्र उस निर्माण अभिकरण को नोटिस जारी करता है।

- (2) उक्त कार्यकलापों में राख का उपयोग भारतीय मानक ब्यूरो, भारतीय रोड कांग्रेस, केन्द्रीय भवन अनुसंधान संस्थान, रूडकी, केन्द्रीय सड़क अनुसंधान संस्थान, दिल्ली, केन्द्रीय लोक निर्माण विभाग, राज्य लोक निर्माण विभागों और अन्य केन्द्रीय और राज्य सरकार के अभिकरणों द्वारा निर्धारित किए गए विनिर्देशों और दिशानिर्देशों के अनुसार किया जाएगा।

- (3) तापीय विद्युत संयंत्र की 300 किलोमीटर की परिधि के भीतर अवस्थित सभी खानों के लिए विस्तारित उत्पादक उत्तरदायित्व (ईपीआर) के तहत खुली आवर्त खानों में राख का पृष्ठ भंडारण करना या अधिक भार के ढेरों के साथ राख का मिश्रण करना बाध्यकारी होगा। सभी खान के स्वामी या प्रचालक (चाहे सरकारी, सार्वजनिक और निजी क्षेत्र के हो) कोयला या लिग्नाईट आधारित तापीय विद्युत संयंत्रों से तीन सौ किलोमीटर (सड़क द्वारा) के भीतर, महानिदेशक, खान सुरक्षा (डीजीएमएस) के दिशानिर्देशों के अनुसार ओवर बर्डन के बाह्य निक्षेप खान की बैकफिलिंग अथवा स्टोविंग (प्रचालित या छोड़ी गई खानों, जैसा भी मामला हो) के लिए उपयोग की गई सामग्रियों के भार-दर-भार के आधार पर कम से कम 25 प्रतिशत राख को मिश्रित करने के लिए उपाय करेंगे :

परंतु ऐसे तापीय विद्युत केन्द्र निःशुल्क राख प्रदान करके और परिवहन की लागत को वहन करके या पारस्परिक सहमत हुई शर्तों पर लिए गए निर्णय के अनुसार लागत या परिवहन व्यवस्था करके राख की अपेक्षित मात्रा की उपलब्धता को सुकर बनायेंगे और खानों के खाली स्थानों और ढेरों में अधिकभार के साथ राख को मिश्रित करना, सृजित अधिभार के लिए इस अधिसूचना के प्रकाशन की तिथि से लागू होगा और उक्त कार्यकलापों में राख का उपयोग, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, महानिदेशक खान सुरक्षा और भारतीय खदान ब्यूरो द्वारा निर्धारित दिशानिर्देशों के अनुसार किया जाएगा।

स्पष्टीकरण .- इस उप-पैरा के प्रयोजन के लिए यह भी स्पष्ट किया जाता है कि लागत मुक्त राख और निःशुल्क परिवहन के उपबंध केवल तभी लागू होंगे यदि ताप विद्युत संयंत्र इसके लिए खान मालिक को नोटिस देते हैं और अधिभार वाले ढेर के साथ मिश्रित करने और खान में खाली स्थान को भरने के लिए राख के 25 प्रतिशत हिस्से के उपयोग का अधिदेश तब तक लागू नहीं होगा जब तक कि ताप विद्युत संयंत्र द्वारा खान मालिक को नोटिस न दिया गया हो।

- (5) (i) सभी खान मालिकों को खान में खाली स्थानों में राख को समायोजित करने के लिए खान बंद योजना (प्रगामी और अंतिम) तैयार करनी होगी और खान में खाली स्थानों में राख के निपटान और अधिभार वाले ढेर के साथ राख को मिश्रित करने के लिए खान योजनाओं को संबंधित प्राधिकारी अनुमोदित करेगा। पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा ताप विद्युत संयंत्रों और कोयला खदानों की पर्यावरणीय मंजूरी की अपेक्षा से छूट देने के साथ-साथ ऐसे निपटान के लिए अपनाए जाने वाले दिशानिर्देशों के संबंध में तारीख 28 अगस्त, 2019 को दिशानिर्देश जारी किए गए।
- (ii) मंत्रालय, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, महानिदेशक, खान सुरक्षा (डीजीएमएस) और भारतीय खान ब्यूरो (आईबीएम) के साथ परामर्श करके, खानों में खाली स्थानों में राख के निपटान करने तथा अधिभार वाले ढेरों में इसे मिश्रित करना सुगम बनाने के लिए समय-समय पर आगे भी दिशानिर्देश जारी कर सकता है और यह खान मालिकों की जिम्मेदारी होगी कि वे ऐसी खानों को अभिज्ञात करने की तिथि से एक वर्ष के भीतर विभिन्न विनियामक प्राधिकरणों द्वारा जारी की गई अनुमतियों में आवश्यक संशोधन या परिवर्तन प्राप्त करेंगे।
- (6) (i) पर्यावरणीय प्रदूषण के संदर्भ में सुरक्षा, व्यवहार्यता (आर्थिक व्यवहार्यता नहीं) और पहलुओं की जांच सहित राख से खान में खाली स्थान को वापस भरने/अधिभार वाले ढेर के साथ राख को मिश्रित करने के लिए खानों की पहचान करने के लिए पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, विद्युत मंत्रालय, खान मंत्रालय, कोयला मंत्रालय, महानिदेशक खान सुरक्षा और भारतीय खान ब्यूरो से प्रतिनिधियों को शामिल करते हुए अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति का गठन किया जाएगा और यह समिति पणधारी मंत्रालयों या विभागों के लिए अभिज्ञात खानों (भूमिगत और खुली, दोनों) के संबंध में तैयार की गई तिमाही रिपोर्टों को अद्यतन करेगी और यह समिति, इस अधिसूचना के प्रकाशन के तुरंत पश्चात उपयुक्त खानों की पहचान करना आरंभ करेगी।
- (ii) ताप विद्युत संयंत्र या खानें, उपरोक्त अनुसार अधिदेशित उपयोग लक्ष्यों को पूरा करने के लिए उपर्युक्त समिति द्वारा पहचान किए जाने तक राख के निपटान हेतु प्रतीक्षा नहीं करेंगी।
- (7) राख से निचले क्षेत्र को भरने का कार्य, अनुमोदित परियोजनाओं के लिए राज्य प्रदूषण नियंत्रण बोर्ड की पूर्व अनुमति से और केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा निर्धारित दिशा-निर्देशों के अनुसार किया जाएगा और राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा अनुमोदित स्थलों, अवस्थान, क्षेत्र और अनुमत मात्रा को अपनी वेबसाइट पर प्रतिवर्ष प्रकाशित किया जाएगा।
- (8) केन्द्रीय प्रदूषण नियंत्रण बोर्ड, संगत पणधारी के साथ मिलकर, राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा अनुमति प्रदान करने के लिए समयबद्ध ऑनलाइन आवेदन प्रक्रिया प्रस्तुत करने के साथ-साथ इस अधिसूचना के अधीन परिकल्पित सभी प्रकार के कार्यकलापों के लिए एक वर्ष के भीतर दिशानिर्देश प्रस्तुत करेगा।
- (9) कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र से तीन सौ किलोमीटर के दायरे में स्थित सभी भवन निर्माण परियोजनाएं (केंद्रीय, राज्य और स्थानीय प्राधिकरणों सरकारी उपक्रमों, अन्य सरकारी अभिकरणों तथा सभी निजी अभिकरणों) राख की ईटों, टाइल्स, धातुमल राख अथवा अन्य राख आधारित उत्पादों का उपयोग करेंगी बशर्ते कि वे वैकल्पिक उत्पादों की कीमत से अधिक कीमत पर उपलब्ध न हों।
- (10) राख आधारित उत्पादों के विनिर्माण और ऐसे उत्पादों में राख के उपयोग में भारतीय मानक ब्यूरो, भारतीय सड़क कांग्रेस और केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा निर्धारित विनिर्देशों और दिशानिर्देशों की अनुपालना होगी।
- ग. गैर-अनुपालन के लिए पर्यावरणीय प्रतिकर .-**
- (1) तीन वर्ष के चक्र के प्रथम दो वर्षों में, यदि कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र (कैप्टिव और/ या सह-उत्पादक स्टेशनों या दोनों सहित) ने कम-से-कम 80 प्रतिशत राख (फ्लाइ-राख और बॉटम-राख) उपयोग नहीं की है तो ऐसे गैर-अनुपालन ताप विद्युत संयंत्रों पर प्रस्तुत की गई वार्षिक रिपोर्टों के आधार पर वित्तीय वर्ष के

अंत में अप्रयुक्त राख पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा और यदि यह तीन वर्ष के चक्र के तीसरे वर्ष में 100 प्रतिशत राख का उपयोग करने में असमर्थ रहता है, तो वह अप्रयुक्त मात्रा पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर के भुगतान का पात्र होगा, जिस पर पहले पर्यावरणीय प्रतिकर नहीं लगायी गयी है।

परंतु पर्यावरणीय प्रतिकर को पैरा क के उप-पैरा (4) में उल्लिखित विभिन्न उपयोगी श्रेणियों के अनुसार प्रथम अनुपालन चक्र के अंतिम वर्ष के अंत में अनुमान लगाया जाएगा और अधिरोपित किया जाएगा।

- (2) अधिकारियों द्वारा एकत्रित पर्यावरणीय प्रतिकर को केन्द्रीय प्रदूषण नियंत्रण बोर्ड के निर्दिष्ट खाते में जमा किया जाएगा।
- (3) लैगोसी राख के मामले में, यदि कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र (कैप्टिव या सह-उत्पादक स्टेशनों या दोनों सहित) ने स्थापित क्षमता पर आधारित उत्पन्न राख का कम-से-कम 20 प्रतिशत (प्रथम वर्ष के लिए), 35 प्रतिशत (द्वितीय वर्ष के लिए), 50 प्रतिशत (तीसरे से दसवें वर्ष तक) उपयोग के बराबर लक्ष्य प्राप्त नहीं किया है तो उस वित्तीय वर्ष के दौरान अप्रयुक्त लैगोसी राख पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा और यदि 10 वर्ष के अंत में लैगोसी राख का उपयोग नहीं किया जाता है तो 1000 रुपए प्रति टन की दर से शेष अप्रयुक्त मात्रा पर पर्यावरणीय प्रतिकर लगाया जाएगा जिस पर पहले पर्यावरणीय प्रतिकर नहीं लगाया गया है।
- (4) अधिकृत खरीददारों या उपभोक्ता अभिकरणों तक राख भेजने की जिम्मेदारी परिवाहकों या वाहन मालिक की जिम्मेदारी है और यदि इसका अनुपालन नहीं किया जाता है, तो अनधिकृत उपयोगकर्ताओं अथवा गैर-अधिकृत उपयोगकर्ताओं को ऐसी मात्रा गलत तरीके से वितरित करने पर 1500 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगायी, इसके अतिरिक्त राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा गैर अनुपालनकर्ता परिवाहकों पर अभियोजन लागू होगा।
- (5) इस अधिसूचना के पैरा ख में विहित पर्यावरण अनुकूल तरीके में राख के उपयोग की जिम्मेदारी खरीददार या उपभोगकर्ता एजेंसियों की है और ऐसा नहीं करने पर केन्द्रीय प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा 1500 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा।
- (6) यदि उपयोगकर्ता अधिकरण पैरा ख के अधीन निर्धारित सीमा तक अथवा पैरा घ के उप-पैरा (1) के अधीन, दिए गए नोटिस के माध्यम से सूचित की गई सीमा, इनमें से जो भी कम हो, तक राख का उपयोग नहीं करती है, वे अतिरिक्त राख की मात्रा का 1500 रुपए प्रति टन की दर से भुगतान करने के लिए उत्तरदायी होंगी।
परंतु भवन निर्माण के संबंध में पर्यावरणीय प्रतिकर निर्मित क्षेत्र के 75 रुपये प्रति वर्ग फीट की दर से वसूल किया जाएगा।
- (7) (i) ताप विद्युत संयंत्रों अन्य बकायादारों से केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा लगायी गई का पर्यावरणीय प्रतिकर उपयोग अप्रयुक्त राख के सुरक्षित निपटान हेतु किया जाएगा और राख आधारित उत्पादों सहित राख के उपयोग के संबंध में और अधिक अनुसंधान करने के लिए भी निधि का उपयोग किया जा सकता है।
(ii) अप्रयुक्त मात्रा पर लगाए गए पर्यावरणीय प्रतिकर के पश्चात भी राख के उपयोग का उत्तरदायित्व ताप विद्युत संयंत्रों की होगी और यदि पश्चातवती चक्रों में पर्यावरणीय प्रतिकर लगाने के पश्चात ताप विद्युत संयंत्र, किसी विशेष चक्र की राख के उपयोग के लक्ष्य को प्राप्त करता है तो अगले चक्र के दौरान अप्रयुक्त मात्रा पर एकत्र की गई पर्यावरणीय प्रतिकर में 10 प्रतिशत कटौती के पश्चात उक्त रकम ताप विद्युत संयंत्र को वापस कर दी जाएगी और पश्चातवती चक्रों में राख के उपयोग के मामले में एकत्र की गई पर्यावरणीय प्रतिकर की 20 प्रतिशत, 30 प्रतिशत और उसी क्रम में कटौती की जानी है।

घ. राख या राख आधारित उत्पादों की आपूर्ति हेतु प्रक्रिया .-

- (1) ताप विद्युत संयंत्रों के स्वामी अथवा राख की ईंटों या टाईल्स या धातुमल आधारित राख के विनिर्माता उन व्यक्तियों या अभिकरणों को लिखित सूचना देंगे जो विक्री या परिवहन या दोनों के लिए प्रस्तुत राख या राख आधारित उत्पादों के उपयोग के लिए उत्तरदायी हैं।
- (2) ऐसे व्यक्ति या उपयोगकर्ता अभिकरणों जिन्हें ताप विद्युत संयंत्रों के स्वामी द्वारा या राख की ईंटों या टाईल्स या धातुमल आधारित राख के उत्पादकों द्वारा सूचना दी गई है, यदि वे पहले ही राख या राख उत्पादों के उपयोग के प्रयोजन से अन्य अभिकरणों के साथ जुड़े हुए हैं, यदि वे किसी भी राख/राख उत्पादों का उपयोग नहीं कर सकते हैं अथवा कम मात्रा का उपयोग कर सकते हैं, तदनुसार ताप विद्युत संयंत्र को सूचित करेंगे।

ड. प्रवर्तन, निगरानी, लेखा परीक्षा और प्रतिवेदन करना

- (1) केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी), उपबंधों के अनुपालना सुनिश्चित करने के लिए प्रवर्तन और निगरानी प्राधिकरण होंगे। सीपीसीबी या एसपीसीबी या पीसीसी तिमाही आधार पर राख के उपयोग की निगरानी करेंगे और सीपीसीबी इस प्रयोजन के लिए अधिसूचना की प्रकाशन की तारीख से छः माह के भीतर एक पोर्टल विकसित करेगा। संबंधित जिला अधिकारी के पास इस अधिसूचना के उपबंधों को लागू करने और निगरानी करने के लिए समवर्ती अधिकारिता होगी।
- (2) (i) ताप विद्युत संयंत्र, राख उत्सर्जन और उपयोग से संबंधित मासिक सूचना वेब पोर्टल पर अगले महीने की 5 तारीख तक अपलोड करेगा। कोयला या लिग्नाइट आधारित ताप ऊर्जा संयंत्रों द्वारा केंद्रीय प्रदूषण नियंत्रण बोर्ड, संबंधित राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति (पीसीसी), केंद्रीय विद्युत प्राधिकरण (सीईए) और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के संबंधित एकीकृत क्षेत्रीय कार्यालयों को इस अधिसूचना के उपबंधों के अनुपालन संबंधी सूचना उपलब्ध कराते हुए वार्षिक कार्यान्वयन रिपोर्ट प्रत्येक वर्ष (1 अप्रैल से 31 मार्च तक की अवधि के लिए) अप्रैल माह के 30वें दिन तक प्रस्तुत की जाएगी। सीपीसीबी और सीईए द्वारा सभी ताप विद्युत संयंत्रों द्वारा प्रस्तुत वार्षिक रिपोर्टों का समेकन किया जाएगा और उसे पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को 31 मई तक प्रस्तुत किया जाएगा।
- (ii) सभी अन्य उपयोगकर्ता अधिकरण पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय या राज्य स्तरीय पर्यावरण प्रभाव आकलन प्राधिकरण (एसईआईएए) द्वारा जारी पर्यावरणीय मंजूरी (ईसी) अथवा राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा जारी संचालन की सहमति (सीटीओ), जो भी लागू हो, की अनुपालना रिपोर्ट में इस अधिसूचना में आज्ञापकता के अनुसार राख के उपभोग या उपयोग या निस्तारण तथा राख आधारित उत्पादों के उपयोग संबंधी सूचना प्रस्तुत करेंगे। केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) या राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) अधिसूचना के उपबंधों के प्रभावी कार्यान्वयन की समीक्षा करने हेतु ताप विद्युत संयंत्रों के अतिरिक्त अन्य सभी अधिकरणों की राख उपयोग की वार्षिक रिपोर्ट प्रकाशित करेंगे।
- (3) इस अधिसूचना के उपबंधों की निगरानी और कार्यान्वयन के प्रयोजन के लिए केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति का गठन किया जाएगा जिसके सदस्य विद्युत मंत्रालय, कोयला मंत्रालय, खनन मंत्रालय, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, सड़क परिवहन और राजमार्ग मंत्रालय और भारी उद्यम विभाग से होने के साथ-साथ समिति के अध्यक्ष द्वारा नामित किए जाने वाले कोई संबंधित पणधारी होंगे। यह समिति संगत पणधारी को आमंत्रित कर सकती है। यह समिति इस अधिसूचना के उपबंधों के प्रभावी और दक्ष कार्यान्वयन के लिए सिफारिशें कर सकती है। यह समिति छः माह में कम से कम एक बार एक बैठक करेगी और वार्षिक कार्यान्वयन रिपोर्टों की समीक्षा करेगी और यह समिति, इस अधिसूचना द्वारा आज्ञापक किए गए अनुसार छः महीनों में कम से कम एक बार संगत पणधारी (को) को आमंत्रित करके राख के उपयोग की निगरानी करने के लिए पणधारी से साथ परामर्शदात्री बैठकें आयोजित करेगी। यह समिति पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफसीसी) को छः मासिक रिपोर्ट प्रस्तुत करेगी।

- (4) ताप विद्युत संयंत्रों और राख के उपयोगकर्ताओं या राख आधारित उत्पादों के विनिर्माताओं के बीच के विवाद का समाधान करने के प्रयोजन से राज्य सरकारें या संघ राज्यक्षेत्र की सरकारें इस अधिसूचना के प्रकाशन की तारीख से तीन माह के भीतर राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) की अध्यक्षता में एक समिति का गठन करेंगी जिसमें विद्युत विभाग के प्रतिनिधि और एक प्रतिनिधि उस विभाग का होगा, जो विवाद वाले संबंधित अभिकरण का कार्य देख रहे हैं।
- (5) केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) द्वारा प्राधिकृत लेखा परीक्षकों द्वारा ताप विद्युत संयंत्रों और उपयोगकर्ता अभिकरणों द्वारा किए गए राख के निपटान की अनुपालन लेखा परीक्षा संचालित की जाएगी और लेखा परीक्षा की रिपोर्ट प्रत्येक वर्ष 30 नवम्बर तक केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को प्रस्तुत की जाएगी। केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) लेखा परीक्षा की रिपोर्ट प्राप्त होने के पंद्रह दिनों के भीतर अनुपालन न करने वाले ताप विद्युत संयंत्रों के विरुद्ध कार्रवाई प्रारंभ करेंगे।

[फा. सं. एचएसएम-9/1/2019-एचएसएम]

नरेश पाल गंगवार, संयुक्त सचिव

उपाबंध

31 मई तक अथवा उससे पहले प्रस्तुत की जाने वाली राख संबंधी उपबंधों की अनुपालन रिपोर्ट (01 अप्रैल से 31 मार्च की अवधि के लिए)।

क्र.सं.	ब्यौरा	
1.	विद्युत संयंत्र का नाम	
2.	कंपनी का नाम	
3.	जिला	
4.	राज्य	
5.	पत्राचार के लिए डाक का पता :	
6.	ई-मेल :	
7.	विद्युत संयंत्र की संस्थापित क्षमता (मेगा वॉट) :	
8.	संयंत्र लोड फैक्टर (पीएलएफ) :	
9.	उत्पादित यूनिटों की संख्या (एमडब्ल्यूएच) :	
10.	विद्युत संयंत्र के अंतर्गत कुल क्षेत्र (हेक्टेयर) (राख कुंडों के अधीन क्षेत्र सहित) :	
11.	रिपोर्टिंग की अवधि के दौरान कोयला खपत की मात्रा (प्रति वर्ष मीट्रिक टन) :	
12.	औसत राख सामग्री प्रतिशतता में (%) :	
13.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख की मात्रा (प्रति वर्ष मीट्रिक टन) : फ्लाई राख (प्रति वर्ष मीट्रिक टन) : बॉटम राख (प्रति वर्ष मीट्रिक टन) :	
14.	ड्राई फ्लाई राख भंडारण गड्ढा (गड्ढों) की क्षमता (मीट्रिक टन) :	
15.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख के उपयोग का ब्यौरा: (क) रिपोर्टिंग की अवधि के दौरान वर्तमान में उपयोग की गई राख की	

	<p>कुल मात्रा (एमटीपीए) :</p> <p>(ख) उपयोग की गई फ्लाई राख की मात्रा (एमटीपीए) :</p> <p>i. फ्लाई-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर सीमेंट शीट या पाइप या बोर्ड/पैनल) :</p> <p>ii. सीमेंट विनिर्माण :</p> <p>iii. रेडी मिक्स कंक्रीट :</p> <p>iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री :</p> <p>v. सिंटेड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण :</p> <p>vi. सड़कों, सड़क और फ्लाई ओवर के पुशतों का निर्माण :</p> <p>vii. बांधों का निर्माण :</p> <p>viii. निम्न भू-क्षेत्र का भराव :</p> <p>ix. खनिज क्षेत्रों का भराव :</p> <p>x. अधिभार वाले डम्पों में उपयोग :</p> <p>xi. कृषि :</p> <p>xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण :</p> <p>xiii. अन्य देशों को राख का निर्यात :</p> <p>xiv. अन्य (कृपया विनिर्दिष्ट करें) :</p> <p>(ग) उपयोग किए गए तल के राख की मात्रा (एमटीपीए) :</p> <p>i. फ्लाई-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर सीमेंट शीट या पाइप या बोर्ड या पैनल) :</p> <p>ii. सीमेंट विनिर्माण :</p> <p>iii. रेडी मिक्स कंक्रीट :</p> <p>iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री :</p> <p>v. सिंटेड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण :</p> <p>vi. सड़कों, सड़क और फ्लाईओवर के पुशतों का निर्माण :</p> <p>vii. बांधों का निर्माण :</p> <p>viii. निम्न भू-क्षेत्र का भराव :</p> <p>ix. खनिज क्षेत्रों का भराव :</p> <p>x. अधिभार वाले डम्पों में उपयोग :</p> <p>xi. कृषि :</p> <p>xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण :</p> <p>xiii. अन्य देशों को राख का निर्यात :</p> <p>xiv. अन्य (कृपया विनिर्दिष्ट करें) :</p> <p>रिपोर्टिंग की अवधि के दौरान वर्तमान में अप्रयुक्त राख की कुल मात्रा (एमटीपीए) :</p>	
16.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख का प्रतिशतता उपयोग (%) :	
17.	<p>राख कुंडों में राख के निपटान का ब्यौरा</p> <p>क) तारीख 31 मार्च तक (रिपोर्टिंग की अवधि को छोड़कर) राख कुण्ड (कुण्डों) में निपटान किए गए राख की कुल मात्रा (मीट्रिक टन):</p>	

	<p>ख) रिपोर्टिंग की अवधि के दौरान राख कुण्ड (कुण्डों) में निपटान किए गए राख की मात्रा (मीट्रिक टन):</p> <p>ग) रिपोर्टिंग की अवधि के दौरान राख कुण्डों में गारा निस्सरण हेतु खपत हुए जल की कुल मात्रा (मी³):</p> <p>घ) राख कुण्डों की कुल संख्या:</p> <p>(i) सक्रिय:</p> <p>(ii) खाली किए गए (पुनः भरा जाना है)</p> <p>(iii) पुनः भरे गए:</p> <p>ड.) राख कुण्डों के अधीन कुल क्षेत्र (हेक्टेयर):</p>	
18.	<p>अलग-अलग राख कुण्ड का ब्यौरा</p> <p>राख कुण्ड 1,2 आदि (यदि राख कुण्डों की संख्या एक से अधिक हो, तो कृपया निम्नलिखित ब्यौरा अलग से उपलब्ध कराएं)</p> <p>क) स्थिति: निर्माणाधीन या सक्रिय या खाली किया गया या पुनः भरा गया</p> <p>ख) राख कुण्ड में राख का निपटान शुरू करने की तारीख/महीना/वर्ष या महीना/वर्ष):</p> <p>ग) राख कुण्ड की क्षमता पूर्ण किए जाने के पश्चात् उसमें राख निपटान रोकने की तारीख</p> <p>(तारीख/महीना/वर्ष या महीना/वर्ष):</p> <p>(सक्रिय राख कुण्डों के लिए लागू नहीं)</p> <p>ग) क्षेत्र (हेक्टेयर):</p> <p>घ) डाइक की ऊंचाई (मी.):</p> <p>घ) आयतन (मी³):</p> <p>ड.) तारीख 31 मार्च तक निपटान किए गए राख की मात्रा (मीट्रिक टन):</p> <p>च) उपलब्ध आयतन का प्रतिशत (%) और आगे निपटान किए जा सकने वाले राख की मात्रा (मीट्रिक टन):</p> <p>छ) राख कुण्ड के भरे जाने की अनुमानित अवधि (वर्षों और महीनों की संख्या):</p> <p>ड.) निर्देशांक (अक्षांश और देशान्तर):</p> <p>(कृपया न्यूनतम 4 निर्देशांकों को विनिर्दिष्ट करें)</p> <p>ज) राख कुण्ड में की गई लाइनिंग का प्रकार: एचडीपीई लाइनिंग या एलडीपीई लाइनिंग या क्ले लाइनिंग या कोई लाइनिंग नहीं</p> <p>छ) निपटान की विधि: शुष्क निपटान या नम गारा (नम गारा के मामले में कृपया विनिर्दिष्ट करें कि क्या एचसीएसडी या एमसीएसडी या एलसीएसडी है)</p> <p>ज) राख का अनुपात: गारा मिश्रण में जल (1:_____):</p> <p>झ) संस्थापित और कार्यशील राख जल पुनर्चक्रण प्रणाली (एडब्ल्यूआरएस): हां या नहीं</p> <p>ञ) जमीन के अंदर या जल निकाय में राख कुण्ड से निस्सरित अपशिष्ट जल की मात्रा (मी³):</p> <p>ट) डाइक की स्थिरता का अध्ययन कराए जाने की पिछली तारीख और उस संगठन का नाम जिसने अध्ययन किया:</p> <p>ठ) लेखा-परीक्षा किए जाने की पिछली तारीख और उस संगठन का नाम जिसने लेखा-परीक्षा की:</p>	
19.	<p>उपयोग किए गए पुराने राख की मात्रा (एमटीपीए):</p> <p>i. फ्लाइ-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर</p>	

	सीमेंट शीट या पाइप या बोर्ड या पैनेल): ii. सीमेंट विनिर्माण: iii. रेडी मिक्स कंक्रीट: iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री: v. सिंटर्ड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण: vi. सड़कों, सड़क और फ्लाई ओवर के पुशतों का निर्माण: vii. बांधों का निर्माण: viii. निम्न भू-क्षेत्र का भराव: ix. खनिज क्षेत्रों का भराव: x. अधिभार वाले डम्पों में उपयोग: xi. कृषि: xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण: xiii. अन्य देशों को राख का निर्यात xiv. अन्य (कृपया विनिर्दिष्ट करें):			
20.	सार :			
	ब्यौरा	सृजित मात्रा (एमटीपी)	उपयोग की गई मात्रा (एमटीपी) और (%)	शेष मात्रा (एमटीपी)
	रिपोर्टिंग की अवधि के दौरान राख			
	पुरानी राख			
	कुल			
21.	कोई अन्य सूचना : वार्षिक अनुपालन रिपोर्ट, और विद्युत संयंत्रों और राख कुण्डों की शेष फाइलों की सॉफ्ट कॉपी ई-मेल:- moefcc- coalash@gov.in पर भेजी जाए।			
22.	प्राधिकृत हस्ताक्षरकर्ता के हस्ताक्षर			

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 31st December, 2021

S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;

And whereas, to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification; and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector;

And whereas, there is a need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials;

And whereas, it is necessary to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And whereas, in the said notification the phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants;

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) *vide* S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), *vide* G.S.R. 285(E), dated the 22nd April, 2021 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft provisions were made available to the public;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.—

- (1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);
- (2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-
 - (i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;
 - (ii) Cement manufacturing, ready mix concrete;
 - (iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;
 - (iv) Construction of dam;
 - (v) Filling up of low lying area;
 - (vi) Filling of mine voids;
 - (vii) Manufacturing of sintered or cold bonded ash aggregate;
 - (viii) Agriculture in a controlled manner based on soil testing;
 - (ix) Construction of shoreline protection structures in coastal districts;

- (x) Export of ash to other countries;
- (xi) Any other eco-friendly purpose as notified from time to time.
- (3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Sub-paragraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.
- (4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance cycle onwards, to meet 100 per cent utilisation
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and <60 per cent, respectively.

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

- (5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1 st	2 nd	3 rd -10 th
Utilisation of legacy ash (in percentage of Annual ash)	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

- (6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.
- (7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.
- (8) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.
- (9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).
- (10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. For the purpose of utilisation of ash, the subsequent sub-paras shall apply.—

- (1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

- (2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government Agencies.

- (3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost of transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

- (4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.

- (5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.

(ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.

- (6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.
- (7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

- (8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.
- (9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance.—

- (1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

- (2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.
- (3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.
- (4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).
- (5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 or per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).
- (6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

- (7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any

particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

- (1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.
- (2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

- (1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.
- (2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.
- (3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

- (4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.
- (5) The compliance audit for ash disposal by the thermal power plants and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Jt. Secy.

AnnexureAsh Compliance Report (for the period 1st April-31st March) to be submitted on or before 31st May.

Sl. No.	Details	
1.	Name of Power Plant	
2.	Name of the company	
3.	District	
4.	State	
5.	Postal address for communication:	
6.	E-mail:	
7.	Power Plant installed capacity (MW):	
8.	Plant Load Factor (PLF):	
9.	No. of units generated (MWh):	
10.	Total area under power plant (ha): (including area under ash ponds)	
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	
12.	Average ash content in percentage (per cent):	
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	
15.	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing:	

	<ul style="list-style-type: none"> (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and fly over embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts; (xiii) Export of ash to other countries: (xiv) Others (please specify): <p>(c) Quantity of bottom ash utilised (MTPA):</p> <ul style="list-style-type: none"> (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): (ii) Cement manufacturing: (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and flyover embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts: (xiii) Export of ash to other countries: (xiv) Others (please specify): <p>Total quantity of current ash unutilised (MTPA) during reporting period:</p>	
16.	Percentage utilisation of current ash generated during reporting period (per cent):	
17.	<p>Details of disposal of ash in ash ponds</p> <ul style="list-style-type: none"> (a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period): (b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons): (c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m³): (d) Total number of ash ponds: <ul style="list-style-type: none"> (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed: (e) total area under ash ponds (ha): 	
18.	<p>Individual ash pond details</p> <p><i>Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)</i></p> <ul style="list-style-type: none"> (a) Status: Under construction or Active or Exhausted or 	

	<p>Reclaimed</p> <p>(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):</p> <p>(c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash ponds)</p> <p>(c) area (hectares):</p> <p>(d) dyke height (m):</p> <p>(d) volume (m³):</p> <p>(e) quantity of ash disposed as on 31st March (Metric Tons):</p> <p>(f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):</p> <p>(g) expected life of ash pond (number of years and months):</p> <p>(e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)</p> <p>(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining</p> <p>g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)</p> <p>(h) Ratio of ash: water in slurry mix (1: ___):</p> <p>(i) Ash water recycling system (AWRS) installed and functioning: Yes or No</p> <p>(j) Quantity of wastewater from ash pond discharged into land or water body (m3):</p> <p>(k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:</p> <p>(l) Last date when the audit was conducted and name of the organisation who conducted the audit:</p>								
19.	<p>Quantity of legacy ash utilised (MTPA):</p> <ol style="list-style-type: none"> i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and flyover embankment: vii. Construction of dams: viii. Filling up of low lying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify): 								
20.	<p>Summary:</p> <table border="1"> <thead> <tr> <th>Details</th> <th>Quantity generated (MTP)</th> <th>Quantity utilised (MTP) and (per cent)</th> <th>Balance quantity (MTP)</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)				
Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)						

	Current ash during reporting period			
	Legacy ash			
	Total			
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc-coalash@gov.in			
22.	Signature of Authorised Signatory			



भारत का राजपत्र The Gazette of India

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असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 30 दिसम्बर, 2022

का.आ. 6169(अ).—पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय में भारत सरकार ने पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए भारत के राजपत्र, असाधारण, भाग II, खंड 3 उप खंड (ii) का.आ. 5481(अ), तारीख 31 दिसंबर, 2021 द्वारा एक अधिसूचना जारी की थी (जिन्हें इसमें इसके पश्चात इसे राख के उपयोग से संबंधित अधिसूचना कहा गया है);

और, राख के उपयोग से संबंधित अधिसूचना के उपबंधों के कार्यान्वयन के संबंध में विद्युत मंत्रालय, ताप विद्युत संयंत्रों और विभिन्न हितधारकों से अनुरोध प्राप्त हुए हैं;

और, राख के उपयोग से संबंधित अधिसूचना के कार्यान्वयन में सुचारू परिवर्तन लाने हेतु उक्त अधिसूचना के कतिपय उपबंधों में संशोधन लाना उचित है;

अतः अब, केन्द्रीय सरकार पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (1), (2) और (4) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, जारी राख के उपयोग संबंधी अधिसूचना में निम्नलिखित संशोधन करती है, अर्थात्:-

जारी राख के उपयोग से संबंधित अधिसूचना में संशोधन –

1. पैरा क में, -

(i) उप पैरा क (4) में, तीसरे परंतुक के पश्चात निम्नलिखित परन्तुक अंतर्विष्ट किया जाएगा, अर्थात् :

“परन्तु, यह भी कि इस अधिसूचना के प्रकाशन की तारीख को अथवा उसके पश्चात् स्थापित नए ताप विद्युत संयंत्र सारणी में यथा विनिर्दिष्ट 60 प्रतिशत से कम ताप विद्युत संयंत्रों के लिए विनिर्दिष्ट अनुपालन चक्र के समान प्रथम अनुपालन चक्र का अनुसरण करेंगे।

टिप्पण : लागू अनुपालन चक्र के अनुसार उपयोग के लक्ष्य 1 अप्रैल, 2022 से प्रभावी होंगे।”

(ii) उप पैरा 5 में, -

(क) आरंभिक पैरा में, “इस अधिसूचना के प्रकाशन की तारीख” शब्दों के स्थान पर “1 अप्रैल, 2022” उक्त अक्षर और शब्द रखे जाएंगे;

(ख) दूसरे परंतुक में, -

(i) “हरित पट्टी या पौधरोपण” के पश्चात, “या उप पैरा (6) में यथा विनिर्दिष्ट केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) द्वारा जारी मार्गदर्शी सिद्धांतों के अनुसार सौर ऊर्जा संभव या पवन ऊर्जा संयंत्र” शब्द कोष्ठकों और अक्षरों को अंतःस्थापित किए जाएंगे;

(ii) “केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) या” शब्द कोष्ठक और अक्षर हटा दिया जाएगा।

(iii) “एक वर्ष” शब्दों के स्थान पर “तीन वर्ष” शब्दों को रखा जाएगा।

(iv) “इस अधिसूचना के प्रकाशन की तारीख” शब्दों के स्थान पर “1 अप्रैल, 2022” उक्त अक्षर और शब्द रखे जाएंगे;

(ग) दूसरे परंतुक के पश्चात निम्नलिखित उपलब्ध अंतःस्थापित किया जाएगा, अर्थात् :

“परंतु कि पैरा क (6) में यथाविनिर्दिष्ट राख के अस्थायी भंडारण हेतु अभिहित किए गए संचालित राख कुंड या डाइक के सिवाय सभी राख कुंडों या डाइक में संग्रहीत राख में पुरानी राख एकत्रित होगी और या तो इसे पुनःप्राप्त या स्थिर या उपयोग करना होगा।”

(iii) उप पैरा (6) के स्थान, उप पैरा रखा जाएगा, अर्थात्:

“(6) किसी भी नए और साथ ही चालू थर्मल पावर प्लांट को 0.1 हेक्टेयर प्रति मेगा वाट (मेगावाट) के क्षेत्र में राख के अस्थायी भंडारण के लिए परिचालन राख तालाब या डाइक की अनुमति दी जा सकती है। केन्द्रीय विद्युत प्राधिकरण के परामर्श से बनाए गए केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) के दिशा-निर्देशों के अनुसार परिचालन के साथ-साथ स्थिर और पुनः दावा किए गए राख तालाबों या बांधों की तकनीकी विशिष्टताओं के अनुसार होंगे और ये दिशानिर्देश वार्षिक प्रमाणन के लिए एक प्रक्रिया भी निर्धारित करेंगे। परिचालन के साथ-साथ राख तालाब या डाइक को उसकी सुरक्षा, पर्यावरण प्रदूषण, उपलब्ध मात्रा, निपटान के तरीके, पानी की खपत या निपटान में संरक्षण, राख जल पुनर्चक्रण और हरित पट्टी, आदि पर परिचालन के साथ-साथ स्थिर और पुनः प्राप्त किया जाएगा और इस अधिसूचना के प्रकाशन की तारीख से तीन महीने भीतर रखा जाएगा :

परंतु कि 31 दिसंबर, 2021 से पहले चालू किए गए ताप विद्युत संयंत्रों के लिए 1600 मेगावाट से कम या उसके बराबर स्थापित क्षमता वाले दो परिचालन राख तालाबों या डाइकों तक और 1600 से अधिक स्थापित क्षमता वाले ताप विद्युत संयंत्रों के लिए चार परिचालन राख तालाबों या बांधों तक MW, मौजूदा राख तालाबों या बांधों से निर्दिष्ट क्षेत्र के भीतर कई लैगून होने पर, निर्देशांक के साथ स्पष्ट सीमांकन के साथ नामित किया जा सकता है, और केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी)/प्रदूषण को सूचित करेगा। नियंत्रण समिति (पीसीसी) 31 मार्च, 2023 तक :

परंतु आगे कि नए थर्मल पावर प्लांट या मौजूदा थर्मल पावर प्लांट के विस्तार के मामले में केवल एक ऐश पॉड या डाइक की अनुमति दी जाएगी 31 दिसंबर, 2021 को या उसके बाद, जो केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी)/प्रदूषण नियंत्रण समिति (पीसीसी) को कमीशन की तारीख से 3 महीने के भीतर निर्देशांक के साथ सीमांकन के विवरण की सूचना देगा। थर्मल पावर प्लांट या 31 मार्च, 2023 तक, जो भी बाद में हो :

परंतु यह और कि कोयला और लिग्नाइट आधारित तापीय विद्युत संयंत्रों को आगे किसी भी नए कार्यशील राख कुंड या डाइक को स्थापित करने या नाम निर्दिष्ट करने की अनुमति नहीं दी जाएगी।

परंतु यह और कि कार्यशील राख कुंड या डाइक की 0.1 हे./मेगावॉट (एमडब्ल्यू) का विनिर्देशन तारीख 3 नवम्बर, 2009 से पूर्व चालू तापीय विद्युत संयंत्रों पर लागू नहीं होंगे।”

2. पैरा ख में, -

(i) उप पैरा (1) में, “300 कि.मी. के भीतर” शब्दों कोष्ठकों और आंकड़ों के स्थान पर “300 कि.मी. के रेडियस के भीतर” शब्द कोष्ठक और आंकड़े रखे जाएंगे।

(ii) उप पैरा (8) में, उच्चतर “वैकल्पिक उत्पादों के मूल्य से अधिक” शब्दों के स्थान पर “केन्द्रीय लोक कार्य विभाग (सीपीडब्ल्यूडी) या संबंधित लोक कार्य विभाग (पीडब्ल्यूडी) द्वारा विनिर्दिष्ट दरों की अनुसूची में उल्लिखित मूल्य या दरों की अनुसूची के अधीन निर्धारित न होने परल वैकल्पिक उत्पादों का मूल्य” शब्द रखे जाएंगे।

3. पैरा घ में, -

(i) उप पैरा (2) के स्थान, उप पैरा रखा जाएगा, अर्थात्:

“(2) जिन व्यक्तियों या उपयोगकर्ता या एजेंसियों को थर्मल पावर प्लांट के मालिक द्वारा नोटिस दिया गया है, अगर वे राख के उपयोग के उद्देश्य से पहले से ही अन्य एजेंसियों के साथ करार कर चुके हैं तो थर्मल पावर प्लांट को तदनुसार सूचित करेंगे और यदि वे उपयोग नहीं कर सकते हैं कोई राख या कम मात्रा का उपयोग कर सकता है।”

(ii) उप-पैरा (2) के पश्चात्, निम्नलिखित उप-पैरा अंतःस्थापित किया जाएगा, अर्थात्:

“(3) जिन व्यक्तियों या उपभोक्ता अभिकरणों को, यदि वे राख आधारित उत्पादों के उपयोग के उद्देश्य से अन्य अभिकरणों के साथ पहले से जुड़े हुए हैं, ऐश ब्रिक्स या टाइल्स या सिंटेड ऐश ऐग्रीगेट या अन्य राख आधारित उत्पादों के विनिर्माताओं के द्वारा नोटिस दिया गया है तो उन्हें ऐश ब्रिक्स या टाइल्स या सिंटेड ऐश ऐग्रीगेट या अन्य राख आधारित उत्पादों के विनिर्माताओं को सूचित करना होगा, तदनुसार, यदि वे राख आधारित उत्पादों का उपयोग नहीं कर सकते या कम प्रमात्रा में उपयोग कर सकते हैं।”

2. यह अधिसूचना राजपत्र में प्रकाशन की तारीख से प्रवृत्त होगी।

[फा. सं. एचएसएम - 9/1/2019- एचएसएम]

नरेश पाल गंगवार, अपर सचिव

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग-II, खंड 3, उप-खंड (ii) सं. एस 5481(अ) तारीख 31 दिसम्बर, 2021 के द्वारा में प्रकाशित की गई।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 30th December, 2022

S.O. 6169(E).—Whereas, the Government of India, Ministry of Environment, Forest and Climate Change, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, issued a notification published in the Gazette of India, Extraordinary, Part II, Section 3, sub-section (ii) *vide* S.O.5481(E), dated the 31st December, 2021 (herein after referred to as the ash utilisation notification);

And whereas, requests have been received from Ministry of Power, thermal power plants and various stakeholders regarding implementation of provisions of the ash utilisation notification;

And whereas, it is expedient to make amendments to certain provisions of the said notification to have smooth transitioning in implementation of the ash utilisation notification;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with of sub-rule (1), (2) and (4) of rule (5) of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments in the ash utilisation notification namely:-

In the ash utilisation notification,-

(1) in paragraph A,-

(i) in sub-paragraph (4), after the third proviso, the following shall be inserted, namely,-

“Provided also that new thermal power plants commissioned on or after the date of publication of this notification shall follow the first compliance cycle similar to the compliance cycle specified for thermal power plants having utilisation per cent. less than 60 per cent. as specified in the table.

Note: The utilisation targets as per the applicable compliance cycle shall commence from 1st April, 2022.”.

(ii) in sub- paragraph (5),-

(a) in the opening paragraph, for the words “the date of publication of this notification”, the figures, letters and word “1st April, 2022” shall be substituted;

(b) in the second proviso, -

(i) after the words “green belt or plantation”, the words, brackets, letters and figure “or solar power plant or wind power plant as per the guidelines issued by the Central Pollution Control Board (CPCB) as specified in sub-para (6)” shall be inserted,

(ii) the words, brackets and letters “Central Pollution Control Board (CPCB) or” shall be deleted,

(iii) for the words “a year”, the words “three years” shall be substituted,

(iv) for the words “the date of publication of this notification”, the figures, letters and word “1st April, 2022” shall be substituted.

(c) after the second proviso, the following proviso shall be inserted, namely:

“Provided that ash stored in all ash ponds or dykes other than operational ash pond or dyke designated for temporary storage of ash as specified in sub-para (6) shall constitute the legacy ash and either to be reclaimed or stabilised or utilised.”.

(iii) for sub- paragraph (6), the following sub-para shall be substituted, namely,-

“(6) Any new as well as operational thermal power plant may be permitted operational ash pond or dyke for temporary storage of ash within an area of 0.1 hectare per Mega Watt (MW). Technical specifications of operational as well as stabilised and reclaimed ash ponds or dykes shall be as per the guidelines of the Central Pollution Control Board (CPCB) made in consultation with the Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the operational as well as stabilised and reclaimed ash pond or dyke on its safety, environment pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and green belt, etc. and shall be put in place within three months from the date of publication of this notification:

Provided that up to two operational ash ponds or dykes for thermal power plants commissioned before 31st December, 2021, having installed capacity less than or equal to 1600 MW, and up to four operational ash ponds or dykes for thermal power plants having installed capacity more than 1600 MW, having multiple lagoons, within the specified area from the existing ash ponds or dykes, may be designated with clear demarcation along with coordinates, and shall inform to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 31st March, 2023:

Provided further that one ash pond or dyke shall be permitted in case of new thermal power plants or expansion of existing thermal power plants commissioned on or after 31st December, 2021, which shall inform the details of demarcation along with coordinates to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) within 3 months from the date of commissioning of thermal power plant or by 31st March, 2023, whichever is later:

Provided also that coal and lignite based thermal power plants shall not be allowed to further establish or designate any new operational ash pond or dyke:

Provided also that specification of 0.1 hectare per Mega Watt (MW) of an operational ash pond or dyke shall not be applicable for the thermal power plants commissioned before 03rd November, 2009.”.

(2) in paragraph B,-

(i) in sub- paragraph (1), for the words, figures and letters “within 300 kms”, the words, figures and letters “within a radius of 300 kms” shall be substituted,

(ii) in sub- paragraph (8), for the words “higher than the price of alternative products”, the words, brackets and letters “more than the price mentioned in the Schedule of Rates as specified by Central Public Works Department (CPWD) or concerned Public Works Department (PWD) or price of alternative products, if not mentioned in the Schedule of Rates.” shall be substituted.

(3) in paragraph -D, -

(i) for sub- paragraph (2), the following sub- paragraph shall be substituted, namely,-

“(2) Persons or user agencies who have been served notice by owner of thermal power plants, if they have already tied up with other agencies for the purpose of utilisation of ash, shall inform the thermal power plant accordingly, and if they cannot use any ash or may use reduced quantity.”.

(ii) after sub- paragraph (2), the following sub-para shall be inserted, namely,-

“(3) Persons or user agencies who have been served notice by manufacturers of ash bricks or tiles or sintered ash aggregate or other ash based products, if they have already tied up with other agencies for the purpose of utilisation of ash based products, shall inform the manufacturer of ash bricks or tiles or sintered ash aggregate or other ash based products, accordingly, and if they cannot use ash based products, or may use reduced quantity.”.

2. This notification shall come into force on the date of its publication in the Official Gazette.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Addl. Secy.

Note : The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), dated the 31st December, 2021, *vide* number S.O.5481 (E), dated the 31st December, 2021.



No. 9/7/2011-St. Th. (Vol. IV)

Government of India
Ministry of Power

'F' Wing, Nirman Bhawan,
New Delhi, 22nd February, 2022

To,

- i. CMD/MD of coal/lignite based Thermal Power Plants(Central/State/Private)
- ii. Principal Secretary (Power/Energy) of All States/UTs
- iii. Chairperson, Central Electricity Authority,

Sub: Supply of Ash to the prospective user agencies as stipulated in the MoEF&CC Notification dated 31.12.2021 by the power plants to increase Ash utilization generated by Thermal Power Plants (TPPs).

Sir,

Ministry of Environment, Forest & Climate Change in super-session of the erstwhile Ministry of Environment and Forest Notification S.O. 763(E), dated the 14th September 1999 issued under the Environment (Protection) Act, 1986 has now issued a new Notification S.O. 5481(E) dated 31st December, 2021 on ash utilization from coal or lignite based Thermal Power Plants.

2. As per the relevant clause B(1) of the said Notification dated 31.12.2021 (**copy attached**), thermal power plants may charge for ash cost and transportation, in case the thermal power plant is able to dispose the ash through other means. The provisions of ash free of cost and free transportation is to be applicable; only if the thermal power plant serves a notice on the construction agencies/mine owner for the same.
3. It is pertinent to note that the objective of the Government is to provide **affordable power to consumers**. Any Extra costs without making efforts to monetize disposal of ash by TPPs lead to increase in electricity tariff, which is to be borne by the consumers.
4. Ash is emerging as a valuable commodity and so giving it free, and also meeting the transportation costs will **lead to malpractices**. Therefore, providing such a valuable commodity through bidding process would help in providing the cheaper power to the consumers. In order to maintain transparency and to restrict malpractices, competitive bidding process is the most suitable method to determine the rate of supply of goods and services. Therefore, it is necessary to streamline the procedure to dispose off the ash by TPPs in a transparent manner and also to monetize the sale of ash so as to reduce the tariff burden on the consumers.

5. In view of above, all coal/lignite based TPPs are hereby **advised** to provide Ash to the prospective user agencies for all new commitments for supply of Ash as per following guidelines which have been framed in accordance with MoEF&CC Notification dated 31.12.2021:-

Procedure to be followed to dispose of ash:

5.1 The Power plants shall provide ash to user agencies as stipulated in the MoEF&CC Notification dated 31.12.2021 through a transparent bidding process only.

5.2 If after bidding/ auction, some quantities of ash still remains un-utilized, then only, as one of the options, it could be considered to be given free of cost on first come first serve basis, if the user agency is willing to bear the transportation cost.

5.3 If ash remains un-utilized even after the steps taken in paras 5.1 and 5.2 above, TPP shall bear the cost of transportation of ash to be provided free to the eligible projects/mine owners.

5.4 Even after steps taken in Paras 5.1 to 5.3 above, if the ash remains un-utilized, TPPs shall serve notice on the construction agencies/mine owners located within 300 kms from TPPs to use ash mandatorily in their projects /filling of mine voids.

5.5 The Ash shall be offered to the prospective user agencies as stipulated in the MoEF&CC Notification dated 31.12.2021 on competing demand basis, i.e. user agency who offers the highest price and meets the transportation cost will be offered the ash on priority. This will reduce the tariff of electricity and burden on the consumers. It will also be in accordance with sound vigilance practices.

5.6 The power plant may offer Ash subject to their technical restrictions such as precautions required for Dyke stability and safety etc. The power plants having lower Ash utilization shall make all efforts to increase its Ash Utilization.

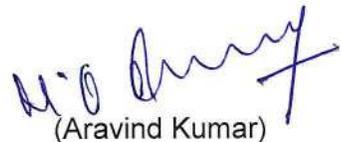
5.7 In case, ash is provided free of cost and free transportation; prospective consumers shall be obliged to source the Ash from the nearest TPPs, to reduce the cost of ash transportation. If the nearest TPP refuses to do so, the prospective consumers shall approach Ministry of Power for appropriate directions.

Procedure to be followed for transportation cost to be borne by TPPs:

5.8 The transportation cost wherever required to be borne by the TPPs, shall be discovered on a competitive bidding process basis only. TPPs shall prepare a panel of transportation agencies every year based on competitive bidding for transportation in slabs of 50 Kms, which may be used for the period. The TPPs shall call for bids well in advance, so that the transportation panel is in place as soon as the previous panel expires. There should be no gap between the expiry of existing panel and the finalization of the fresh panel.

- 5.9 TPPs are advised to invite open bids by keeping a lower bid threshold of minimum 50 tonnes so that even small and medium commercial enterprises can also take part in the bid process.
6. The Appropriate Commission shall scrutinize any expenses regarding ash utilization proposed to be passed through in tariff by the Generation Company in accordance with these guidelines to ensure that the least possible burden is passed on to electricity consumers and full transparency is ensured by Generating Company as envisaged in these Guidelines.
7. **Applicability of this Advisory:** This advisory may be followed by every coal or lignite based TPP (i.e including captive or co-generating stations or both), mentioned at para A(1) of the MOEF&CC notification dated 31.12.2021. Further, it is clarified that above guidelines apply **prospectively**. TPPs are **advised** to honour their existing commitments of selling/ transportation of fly ash on the basis of rates arrived through a transparent competitive bidding/ State Schedule of rates only, till the expiry of their existing commitment. For the remaining quantity and new commitments, both fly ash and pond ash shall invariably be disposed off through a transparent bid process.
8. This letter supersedes the earlier letters issued in this regard vide File No 9/7/2011-S.Th (Vol. IV) dated 22.09.2021 and File No 9/7/2011-S.Th(Vol. IV) dated 08.11.2021.
9. All concerned are requested to take necessary action in this regard.
10. This issues with the approval of Hon'ble Minister for Power, New & Renewable Energy.

Enclosed: As above



(Aravind Kumar)

Deputy Secretary to the Govt. of India

Tel: 2371 4367

Copy to:

- i. Secretary (MoEF&CC), Government of India
- ii. Secretary (MoRTH), Government of India
- iii. Secretary (MoHUA), Government of India
- iv. All Chief Secretaries of States/ Union Territories
- v. Secretary, CERC
- vi. Secretaries of all SERCs/JERCs

Copy for kind information to:

PS to MoP& NRE, PS to MoSP, Sr PPS to Secretary (Power), All Additional Secretaries/Joint Secretaries/E.A./CE(Thermal), Directors/DS, MoP



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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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नई दिल्ली, शुक्रवार, दिसम्बर 31, 2021/पौष 10, 1943
NEW DELHI, FRIDAY, DECEMBER 31, 2021/PAUSHA 10, 1943

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 31 दिसम्बर, 2021

का.आ. 5481(अ).—केन्द्रीय सरकार ने भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से तीन सौ किलोमीटर के विनिर्दिष्ट व्यास के भीतर ईंटों के विनिर्माण के लिए उपजाऊ मिट्टी के उत्खनन को प्रतिबंधित करने के लिए और भवन निर्माण सामग्री के विनिर्माण में और संनिर्माण क्रियाकलाप में फ्लाई-राख के उपयोग को बढ़ावा देने के लिए निदेश जारी किए हैं;

और, प्रदूषणकर्ता भुगतान सिद्धांत (पीपीपी) के आधार पर, ऐसा करके कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा फ्लाई-राख का 100 प्रतिशत उपयोग सुनिश्चित करते हुए और फ्लाई-राख प्रबंधन प्रणाली की संधारणीयता के लिए पूर्वोक्त अधिसूचना को और अधिक प्रभावकारी ढंग से कार्यान्वित करने हेतु, केंद्रीय सरकार ने मौजूदा अधिसूचना की समीक्षा की;

और प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर पर्यावरणीय प्रतिकर निर्धारित किए जाने की आवश्यकता है;

और, विनिर्माण को बढ़ावा देकर तथा निर्माण कार्य के क्षेत्र में राख आधारित उत्पादों तथा भवन निर्माण सामग्रियों के प्रयोग को अनिवार्य करके उपजाऊ मिट्टी को संरक्षित करने की आवश्यकता है;

और, सड़क बनाने, सड़क एवं फ्लाई ओवर के रेलिंग बनाने, तटरेखा की सुरक्षा का उपाय करने, अनुमोदित परियोजनाओं के निचले क्षेत्रों को भरने, खनित स्थलों को फिर से भरने में मिट्टी की सामग्रियों से भरने के विकल्प के रूप में राख उपयोग को बढ़ावा देकर उपजाऊ मिट्टी और प्राकृतिक संसाधनों को संरक्षित करने की आवश्यकता है;

और, पर्यावरण को सुरक्षित करना तथा कोयला अथवा लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित फ्लाई राख के निक्षेपण तथा निपटान की रोकथाम करना आवश्यक है;

और, उक्त अधिसूचना में जो 'राख' शब्द का प्रयोग किया गया है उसमें कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित फ्लाई-राख और बॉटम-राख दोनों शामिल हैं;

और, केंद्रीय सरकार प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर, पर्यावरणीय प्रतिकर की प्रणाली सहित राख के उपयोग के लिए एक व्यापक ढांचा लाना चाहती है;

अतः पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, भारत सरकार के पर्यावरण एवं वन मंत्रालय की अधिसूचना जो का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा भारत के राजपत्र, असाधारण भाग II, खंड 3, उप खंड (i) में प्रकाशित का अधिक्रमण करते हुए, कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा राख के उपयोग के संबंध में प्रारूप अधिसूचना जो सा.का.नि. 285 (अ) तारीख 22 अप्रैल, 2021 द्वारा भारत के राजपत्र, असाधारण, भाग-2, धारा 3, उप धारा (i) में प्रकाशित की गई थी जिसमें उन सभी व्यक्तियों से जिनका इससे प्रभावित होना सामान्य है उस तारीख से, जिसको उक्त प्रारूप उपबंधों की शासकीय राजपत्र में अंतर्विष्ट प्रतियां जनता को उपलब्ध करा दी गई थी, साठ दिनों के अवसान से पूर्व आक्षेप और सुझाव आमंत्रित किए गए थे।

और उक्त प्रारूप अधिसूचना के संबंध में उससे संभावित तौर पर प्रभावित होने वाले सभी व्यक्तियों से प्राप्त आक्षेपों और सुझावों पर केंद्रीय सरकार द्वारा सम्यक रूप से विचार कर लिया गया है;

अतः पर्यावरण (संरक्षण) नियम, 1986 के नियम (5) के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और अधिसूचना का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 का उन बातों के सिवाय अधिकांत करते हुए जिन्हें ऐसे अधिक्रमण से पूर्व किया गया है या करने का लोप किया गया है, केंद्रीय सरकार कोयलों या लिग्नाइट आधारित ताप विद्युत संयंत्रों से राख के उपयोग के संबंध में निम्नलिखित अधिसूचना जारी करती है, जो इस अधिसूचना के प्रकाशन की तिथि से प्रवृत्त होगी, अर्थात्

क. फ्लाई-राख और बॉटम-राख का निपटान करने हेतु ताप विद्युत संयंत्रों (टीपीपी) के उत्तरदायित्व.-

(1) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र (जिनमें कैप्टिव और/या सह-उत्पादन केंद्र शामिल हैं या दोनों) की यह प्राथमिक जिम्मेदारी होगी कि वह अपने द्वारा सृजित राख (फ्लाई-राख और बॉटम-राख) का उप पैरा (2) में दिए गए पारि-अनुकूल तरीके से 100 प्रतिशत उपयोग सुनिश्चित करे;

(2) कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से सृजित राख का उपयोग केवल निम्नलिखित पारि-अनुकूल प्रयोजनों के लिए किया जाएगा, अर्थात्:-

- (i) फ्लाई राख पर आधारित उत्पाद अर्थात्: ईट ब्लॉक टाइल, फाइबर सीमेंट शीट, पाइप, बोर्ड, पैनल का विनिर्माण;
- (ii) सीमेंट विनिर्माण, रेडी-मिक्स कंक्रीट;

- (iii) सड़क निर्माण और फ्लाई-ओवर के रेलिंग का निर्माण, राख और जिओ-पॉलीमर आधारित निर्माण सामग्री;
- (iv) बांध का निर्माण;
- (v) निचले क्षेत्र को भरना;
- (vi) खनन कार्य से रिक्त हुए स्थान को भरना;
- (vii) सिंटेड या शीत-बद्ध राख संचय का विनिर्माण;
- (viii) मृदा परीक्षण के आधार पर नियंत्रित तरीके से कृषि;
- (ix) तटीय जिलों में तटरेखा संरक्षण संरचनाओं का निर्माण;
- (x) अन्य देशों को राख का निर्यात;
- (xi) समय-समय पर यथाधिसूचित किसी अन्य पारि-अनुकूल प्रयोजन के लिए।
- (3) अध्यक्ष, केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति गठित की जाएगी जिसमें पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफसीसी), विद्युत मंत्रालय, खान मंत्रालय, कोयला मंत्रालय, सड़क परिवहन और राजमार्ग मंत्रालय, कृषि अनुसंधान एवं शिक्षा विभाग, सड़क कांग्रेस संस्थान तथा राष्ट्रीय सीमेंट एवं भवन सामग्री परिषद के प्रतिनिधियों को सदस्यों के रूप में शामिल किया जाएगा, जिसका प्रयोजन राख के उपयोग के पारि-अनुकूल तौर-तरीकों की जांच करना, उनकी समीक्षा एवं अनुशंसा करना तथा प्रौद्योगिकीय विकासों तथा पणधारी से प्राप्त अनुरोधों के आधार पर उप-पैरा (2) में यथोल्लिखित ऐसे तौर-तरीकों की सूची में समिति द्वारा सुझाए गए तौर-तरीकों को शामिल करना या किसी तौर-तरीके को सूची से हटाना या उसमें संशोधन करना है। जब भी इस प्रयोजन के लिए अपेक्षित हो, यह समिति राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति, ताप विद्युत संयंत्र और खानों के प्रचालकों को आमंत्रित कर सकती है। इस समिति सिफारिश के आधार पर, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय ऐसे पारि-अनुकूल प्रयोजन प्रकाशित करेगा।
- (4) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र उस वर्ष के दौरान सृजित राख (फ्लाई-राख और बॉटम-राख) का 100 प्रतिशत उपयोग करने हेतु उत्तरदायी होगा; तथापि, किसी भी स्थिति में, किसी वर्ष में राख का उपयोग 80 प्रतिशत से नीचे नहीं होगा और साथ ही, उस ताप विद्युत संयंत्र को तीन वर्ष की अवधि में 100 प्रतिशत औसत राख के उपयोग का लक्ष्य प्राप्त करना होगा :

परंतु, यह और कि पहली बार के लिए लागू तीन वर्ष के चक्र को ऐसे ताप विद्युत संयंत्रों, जहां राख का उपयोग 60-80 प्रतिशत के बीच होता है, एक वर्ष के लिए और ऐसे संयंत्रों, जहां राख का उपयोग 60 प्रतिशत से कम है, दो वर्ष के लिए बढ़ाया जा सकता है, और राख के उपयोग की प्रतिशतता की गणना के प्रयोजन के लिए वर्ष 2021-2022 में उपयोग की प्रतिशत प्रमात्रा को नीचे दी गई तालिका के अनुसार ध्यान में रखा जाएगा:

तापीय विद्युत संयंत्रों के उपयोग की प्रतिशतता	100 प्रतिशत उपयोगिता प्राप्त करने के लिए प्रथम अनुपालन चक्र	100 प्रतिशत उपयोगिता प्राप्त करने के लिए द्वितीय अनुपालन चक्र
>80 प्रतिशत	3 वर्ष	3 वर्ष
60-80 प्रतिशत	4 वर्ष	3 वर्ष
<60 प्रतिशत	5 वर्ष	3 वर्ष

परन्तु, ताप विद्युत संयंत्रों के लिए 80 प्रतिशत न्यूनतम उपयोग प्रतिशतता, क्रमशः 60-80 प्रतिशत और <60 प्रतिशत की उपयोगिता की श्रेणी के तहत आने वाले ताप विद्युत संयंत्रों के लिए प्रथम अनुपालन चक्र के पहले वर्ष और पहले दो वर्षों पर लागू नहीं होगी।

परन्तु, अनुपालन चक्र के अंतिम वर्ष में सृजित 20 प्रतिशत राख को अगले चक्र में भी ले जाया जाएगा जिसका उपयोग उस अनुपालन चक्र के दौरान सृजित राख के साथ अगले तीन वर्षों में किया जाएगा।

- (5) अप्रयुक्त संचित राख अर्थात् लीगेसी राख, जिसका इस अधिसूचना के प्रकाशन से पहले भंडारण किया गया है, को ताप विद्युत संयंत्र (टीपीपी) द्वारा इस रीति से क्रमिक रूप से उपयोग में लाया जाएगा, कि लीगेसी राख को इस अधिसूचना के प्रकाशन की तिथि से दस वर्षों के भीतर पूरी तरह उपयोग कर लिया जाएगा और यह उस विशिष्ट वर्ष के चालू संचालनों के माध्यम से राख उत्सर्जन के लिए निर्धारित उपयोग लक्ष्यों से अतिरिक्त होगा।

परन्तु, निम्नलिखित प्रतिशतताओं में यथा उल्लिखित लीगेसी राख की न्यूनतम मात्रा का उपयोग तास्थानी वर्ष के दौरान कर लिया जाएगा और लीगेसी राख की न्यूनतम मात्रा की ताप विद्युत संयंत्र की संस्थापित क्षमता के अनुसार वार्षिक राख उत्सर्जन के आधार पर की जानी है।

प्रकाशन की तिथि से वर्ष	पहला	दूसरा	तीसरा-दसवां
लीगेसी राख का उपयोग (वार्षिक राख की प्रतिशतता)	कम से कम 20 प्रतिशत	कम से कम 35 प्रतिशत	कम से कम 50 प्रतिशत

परन्तु, यह और कि लीगेसी राख का उपयोग वहां अपेक्षित नहीं है, जहां राख के तालाब या डाइक स्थिर हो गए हैं और हरित पट्टी के निर्माण या पौध रोपण से पुनरुद्धार किया गया है और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड इस संबंध में प्रमाणित करेगा। किसी राख तालाब या डाइक के स्थिरीकरण और भूमि-उद्धार का कार्य, जिसमें केन्द्रीय प्रदूषण नियंत्रण बोर्ड या राज्य प्रदूषण नियंत्रण बोर्ड द्वारा प्रमाणन शामिल है, इस अधिसूचना के प्रकाशन की तारीख से एक वर्ष के भीतर किया जाएगा। अन्य सभी राख के कुंड या डाइक में शेष बचे राख का उपयोग ऊपर उल्लिखित समय-सीमाओं के अनुसार क्रमिक रूप से किया जाएगा।

टिप्पण: राख के उपयोग के लक्ष्यों को हासिल करने के लिए उप पैरा (4) और (5) के अधीन दायित्व 01 अप्रैल, 2022 की तारीख से लागू होंगे।

- (6) किसी भी नए तापीय विद्युत संयंत्र (टीपीपी) में 0.1 हेक्टेयर प्रति मेगावाट (एमडब्ल्यू) क्षेत्रफल के साथ आपातकालीन या अस्थायी राख कुंड की अनुमति दी जा सकती है। राख के तालाब या डाइकों का तकनीकी विनिर्देश, केन्द्रीय विद्युत प्राधिकरण (सीईए) के परामर्श से केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा बनाए गए दिशानिर्देशों के अनुसार होगा और ये दिशानिर्देश राख के कुंड या डाइक के संबंध में इसकी सुरक्षा, पर्यावरणीय प्रदूषण, उपलब्ध प्रमात्रा, निपटान का तरीका, निपटान में जल की खपत या संरक्षण, राख जल पुनर्चक्रण और ग्रीन बेल्ट आदि के वार्षिक प्रमाणन के लिए कार्यविधि भी निर्धारित करेंगे और इस अधिसूचना के प्रकाशन की तारीख से तीन महीनों के भीतर प्रस्तुत किए जाएंगे।
- (7) प्रत्येक कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र यह सुनिश्चित करेगा कि राख की लदाई, उतराई, ढुलाई, भंडारण और निपटान पर्यावरणीय दृष्टि से अनुकूल रीति से किया गया है और वायु और जल प्रदूषण की रोकथाम के लिए सभी ऐहियतात किए गए हैं और इस संबंध में स्थिति की सूचना इस अधिसूचना में संलग्न अनुबंध में संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को दी जाएगी।
- (8) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, संस्थापित क्षमता पर आधारित राख के कम से कम 16 घंटों के भंडारण के लिए समर्पित शुष्क फ्लाई राख साइलोस प्रतिष्ठापित करेगा, जिनके पास पृथक पहुंच मार्ग होंगे, जिससे कि राख पहुंचाने के कार्य को सुगम बनाया जा सके। इसकी सूचना संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को उपाबंध में दी जाएगी और केन्द्रीय प्रदूषण नियंत्रण

बोर्ड (सीपीसीबी) या राज्य केन्द्रीय प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति द्वारा समय-समय पर निरीक्षण किया जाएगा।

- (9) प्रत्येक कोयला या लिग्नाईट आधारित तापीय विद्युत संयंत्र (जिसके अंतर्गत कैप्टिव या सह उत्पादन केन्द्र भी है या दोनों), वास्तविक उपयोगकर्ता (उपयोगकर्ताओं) के हित के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड के वेब पोर्टल या मोबाईल फोन एप्प का लिंक उपलब्ध कराकर ताप विद्युत संयंत्र के पास राख की उपलब्धता के वास्तविक आंकड़े प्रदान करेगा।
- (10) राख के 100 प्रतिशत उपयोग का वैधानिक दायित्व, जहां भी लागू हो, विधि में बदलाव के रूप में माना जाएगा।

ख. राख के उपयोग के प्रयोजनार्थ, उत्तरवर्ती उप पैराग्राफ लागू होंगे :-

- (1) ऐसे सभी अभिकरण (सरकारी, अर्द्धसरकारी और निजी), जो सड़क बिछाने, सड़क और फ्लाई ओवर के किनारों, तटीय जिलों में तटरेखा की सुरक्षा संरचनाओं और लिग्नाईट या कोयला आधारित ताप विद्युत संयंत्र से 300 किमी के भीतर बांधों जैसे निर्माण संबंधी कार्यकलापों में लगे हुए हैं, इन कार्यकलापों में अनिवार्य रूप से राख का उपयोग करेंगे :

परंतु इसको परियोजना स्थल पर निशुल्क पहुंचाया जाए और परिवहन लागत, ऐसे कोयला या लिग्नाईट आधारित ताप विद्युत संयंत्रों द्वारा वहन की जाए।

परंतु यह और कि ताप विद्युत संयंत्र पारस्परिक सहमत हुई शर्तों के अनुसार राख की लागत और परिवहन के लिए शुल्क ले सकता है उस मामले में जहां ताप विद्युत संयंत्र अन्य माध्यम से राख का निपटान करने में समर्थ है और ये अभिकरण इसके लिए प्रार्थना कर सकते हैं और बिना लागत और बिना परिवहन शुल्क के राख उपलब्ध कराने के प्रावधान तभी लागू होंगे यदि उसके लिए ताप विद्युत संयंत्र उस निर्माण अभिकरण को नोटिस जारी करता है।

- (2) उक्त कार्यकलापों में राख का उपयोग भारतीय मानक ब्यूरो, भारतीय रोड कांग्रेस, केन्द्रीय भवन अनुसंधान संस्थान, रूडकी, केन्द्रीय सड़क अनुसंधान संस्थान, दिल्ली, केन्द्रीय लोक निर्माण विभाग, राज्य लोक निर्माण विभागों और अन्य केन्द्रीय और राज्य सरकार के अभिकरणों द्वारा निर्धारित किए गए विनिर्देशों और दिशानिर्देशों के अनुसार किया जाएगा।

- (3) तापीय विद्युत संयंत्र की 300 किलोमीटर की परिधि के भीतर अवस्थित सभी खानों के लिए विस्तारित उत्पादक उत्तरदायित्व (ईपीआर) के तहत खुली आवर्त खानों में राख का पृष्ठ भंडारण करना या अधिक भार के ढेरों के साथ राख का मिश्रण करना बाध्यकारी होगा। सभी खान के स्वामी या प्रचालक (चाहे सरकारी, सार्वजनिक और निजी क्षेत्र के हो) कोयला या लिग्नाईट आधारित तापीय विद्युत संयंत्रों से तीन सौ किलोमीटर (सड़क द्वारा) के भीतर, महानिदेशक, खान सुरक्षा (डीजीएमएस) के दिशानिर्देशों के अनुसार ओवर बर्डन के बाह्य निक्षेप खान की बैकफिलिंग अथवा स्टोर्विंग (प्रचालित या छोड़ी गई खानों, जैसा भी मामला हो) के लिए उपयोग की गई सामग्रियों के भार-दर-भार के आधार पर कम से कम 25 प्रतिशत राख को मिश्रित करने के लिए उपाय करेंगे :

परंतु ऐसे तापीय विद्युत केन्द्र निःशुल्क राख प्रदान करके और परिवहन की लागत को वहन करके या पारस्परिक सहमत हुई शर्तों पर लिए गए निर्णय के अनुसार लागत या परिवहन व्यवस्था करके राख की अपेक्षित मात्रा की उपलब्धता को सुकर बनायेंगे और खानों के खाली स्थानों और ढेरों में अधिकभार के साथ राख को मिश्रित करना, सृजित अधिभार के लिए इस अधिसूचना के प्रकाशन की तिथि से लागू होगा और उक्त कार्यकलापों में राख का उपयोग, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, महानिदेशक खान सुरक्षा और भारतीय खदान ब्यूरो द्वारा निर्धारित दिशानिर्देशों के अनुसार किया जाएगा।

स्पष्टीकरण .- इस उप-पैरा के प्रयोजन के लिए यह भी स्पष्ट किया जाता है कि लागत मुक्त राख और निःशुल्क परिवहन के उपबंध केवल तभी लागू होंगे यदि ताप विद्युत संयंत्र इसके लिए खान मालिक को नोटिस देते हैं और अधिभार वाले ढेर के साथ मिश्रित करने और खान में खाली स्थान को भरने के लिए राख के 25 प्रतिशत हिस्से के उपयोग का अधिदेश तब तक लागू नहीं होगा जब तक कि ताप विद्युत संयंत्र द्वारा खान मालिक को नोटिस न दिया गया हो।

- (5) (i) सभी खान मालिकों को खान में खाली स्थानों में राख को समायोजित करने के लिए खान बंद योजना (प्रगामी और अंतिम) तैयार करनी होगी और खान में खाली स्थानों में राख के निपटान और अधिभार वाले ढेर के साथ राख को मिश्रित करने के लिए खान योजनाओं को संबंधित प्राधिकारी अनुमोदित करेगा। पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा ताप विद्युत संयंत्रों और कोयला खदानों की पर्यावरणीय मंजूरी की अपेक्षा से छूट देने के साथ-साथ ऐसे निपटान के लिए अपनाए जाने वाले दिशानिर्देशों के संबंध में तारीख 28 अगस्त, 2019 को दिशानिर्देश जारी किए गए।
- (ii) मंत्रालय, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, महानिदेशक, खान सुरक्षा (डीजीएमएस) और भारतीय खान ब्यूरो (आईबीएम) के साथ परामर्श करके, खानों में खाली स्थानों में राख के निपटान करने तथा अधिभार वाले ढेरों में इसे मिश्रित करना सुगम बनाने के लिए समय-समय पर आगे भी दिशानिर्देश जारी कर सकता है और यह खान मालिकों की जिम्मेदारी होगी कि वे ऐसी खानों को अभिज्ञात करने की तिथि से एक वर्ष के भीतर विभिन्न विनियामक प्राधिकरणों द्वारा जारी की गई अनुमतियों में आवश्यक संशोधन या परिवर्तन प्राप्त करेंगे।
- (6) (i) पर्यावरणीय प्रदूषण के संदर्भ में सुरक्षा, व्यवहार्यता (आर्थिक व्यवहार्यता नहीं) और पहलुओं की जांच सहित राख से खान में खाली स्थान को वापस भरने/अधिभार वाले ढेर के साथ राख को मिश्रित करने के लिए खानों की पहचान करने के लिए पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, विद्युत मंत्रालय, खान मंत्रालय, कोयला मंत्रालय, महानिदेशक खान सुरक्षा और भारतीय खान ब्यूरो से प्रतिनिधियों को शामिल करते हुए अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति का गठन किया जाएगा और यह समिति पणधारी मंत्रालयों या विभागों के लिए अभिज्ञात खानों (भूमिगत और खुली, दोनों) के संबंध में तैयार की गई तिमाही रिपोर्टों को अद्यतन करेगी और यह समिति, इस अधिसूचना के प्रकाशन के तुरंत पश्चात उपयुक्त खानों की पहचान करना आरंभ करेगी।
- (ii) ताप विद्युत संयंत्र या खानें, उपरोक्त अनुसार अधिदेशित उपयोग लक्ष्यों को पूरा करने के लिए उपर्युक्त समिति द्वारा पहचान किए जाने तक राख के निपटान हेतु प्रतीक्षा नहीं करेंगी।
- (7) राख से निचले क्षेत्र को भरने का कार्य, अनुमोदित परियोजनाओं के लिए राज्य प्रदूषण नियंत्रण बोर्ड की पूर्व अनुमति से और केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा निर्धारित दिशा-निर्देशों के अनुसार किया जाएगा और राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा अनुमोदित स्थलों, अवस्थान, क्षेत्र और अनुमत मात्रा को अपनी वेबसाइट पर प्रतिवर्ष प्रकाशित किया जाएगा।
- (8) केन्द्रीय प्रदूषण नियंत्रण बोर्ड, संगत पणधारी के साथ मिलकर, राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा अनुमति प्रदान करने के लिए समयबद्ध ऑनलाइन आवेदन प्रक्रिया प्रस्तुत करने के साथ-साथ इस अधिसूचना के अधीन परिकल्पित सभी प्रकार के कार्यकलापों के लिए एक वर्ष के भीतर दिशानिर्देश प्रस्तुत करेगा।
- (9) कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र से तीन सौ किलोमीटर के दायरे में स्थित सभी भवन निर्माण परियोजनाएं (केंद्रीय, राज्य और स्थानीय प्राधिकरणों सरकारी उपक्रमों, अन्य सरकारी अभिकरणों तथा सभी निजी अभिकरणों) राख की ईटों, टाइल्स, धातुमल राख अथवा अन्य राख आधारित उत्पादों का उपयोग करेंगी बशर्ते कि वे वैकल्पिक उत्पादों की कीमत से अधिक कीमत पर उपलब्ध न हो।
- (10) राख आधारित उत्पादों के विनिर्माण और ऐसे उत्पादों में राख के उपयोग में भारतीय मानक ब्यूरो, भारतीय सड़क कांग्रेस और केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा निर्धारित विनिर्देशों और दिशानिर्देशों की अनुपालना होगी।
- ग. गैर-अनुपालन के लिए पर्यावरणीय प्रतिकर .-**
- (1) तीन वर्ष के चक्र के प्रथम दो वर्षों में, यदि कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र (कैप्टिव और/ या सह-उत्पादक स्टेशनों या दोनों सहित) ने कम-से-कम 80 प्रतिशत राख (फ्लाइंग-राख और बॉटम-राख) उपयोग नहीं की है तो ऐसे गैर-अनुपालन ताप विद्युत संयंत्रों पर प्रस्तुत की गई वार्षिक रिपोर्टों के आधार पर वित्तीय वर्ष के

अंत में अप्रयुक्त राख पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा और यदि यह तीन वर्ष के चक्र के तीसरे वर्ष में 100 प्रतिशत राख का उपयोग करने में असमर्थ रहता है, तो वह अप्रयुक्त मात्रा पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर के भुगतान का पात्र होगा, जिस पर पहले पर्यावरणीय प्रतिकर नहीं लगायी गयी है।

परंतु पर्यावरणीय प्रतिकर को पैरा क के उप-पैरा (4) में उल्लिखित विभिन्न उपयोगी श्रेणियों के अनुसार प्रथम अनुपालन चक्र के अंतिम वर्ष के अंत में अनुमान लगाया जाएगा और अधिरोपित किया जाएगा।

- (2) अधिकारियों द्वारा एकत्रित पर्यावरणीय प्रतिकर को केन्द्रीय प्रदूषण नियंत्रण बोर्ड के निर्दिष्ट खाते में जमा किया जाएगा।
- (3) लैगोसी राख के मामले में, यदि कोयला या लिग्नाइट आधारित तापीय ऊर्जा संयंत्र (कैप्टिव या सह-उत्पादक स्टेशनों या दोनों सहित) ने स्थापित क्षमता पर आधारित उत्पन्न राख का कम-से-कम 20 प्रतिशत (प्रथम वर्ष के लिए), 35 प्रतिशत (द्वितीय वर्ष के लिए), 50 प्रतिशत (तीसरे से दसवें वर्ष तक) उपयोग के बराबर लक्ष्य प्राप्त नहीं किया है तो उस वित्तीय वर्ष के दौरान अप्रयुक्त लैगोसी राख पर 1000 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा और यदि 10 वर्ष के अंत में लैगोसी राख का उपयोग नहीं किया जाता है तो 1000 रुपए प्रति टन की दर से शेष अप्रयुक्त मात्रा पर पर्यावरणीय प्रतिकर लगाया जाएगा जिस पर पहले पर्यावरणीय प्रतिकर नहीं लगाया गया है।
- (4) अधिकृत खरीददारों या उपभोक्ता अभिकरणों तक राख भेजने की जिम्मेदारी परिवाहकों या वाहन मालिक की जिम्मेदारी है और यदि इसका अनुपालन नहीं किया जाता है, तो अनधिकृत उपयोगकर्ताओं अथवा गैर-अधिकृत उपयोगकर्ताओं को ऐसी मात्रा गलत तरीके से वितरित करने पर 1500 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगायी, इसके अतिरिक्त राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा गैर अनुपालनकर्ता परिवाहकों पर अभियोजन लागू होगा।
- (5) इस अधिसूचना के पैरा ख में विहित पर्यावरण अनुकूल तरीके में राख के उपयोग की जिम्मेदारी खरीददार या उपभोगकर्ता एजेंसियों की है और ऐसा नहीं करने पर केन्द्रीय प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा 1500 रुपए प्रति टन की दर से पर्यावरणीय प्रतिकर लगाया जाएगा।
- (6) यदि उपयोगकर्ता अधिकरण पैरा ख के अधीन निर्धारित सीमा तक अथवा पैरा घ के उप-पैरा (1) के अधीन, दिए गए नोटिस के माध्यम से सूचित की गई सीमा, इनमें से जो भी कम हो, तक राख का उपयोग नहीं करती है, वे अतिरिक्त राख की मात्रा का 1500 रुपए प्रति टन की दर से भुगतान करने के लिए उत्तरदायी होंगी।
परंतु भवन निर्माण के संबंध में पर्यावरणीय प्रतिकर निर्मित क्षेत्र के 75 रुपये प्रति वर्ग फीट की दर से वसूल किया जाएगा।
- (7) (i) ताप विद्युत संयंत्रों अन्य बकायादारों से केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा लगायी गई का पर्यावरणीय प्रतिकर उपयोग अप्रयुक्त राख के सुरक्षित निपटान हेतु किया जाएगा और राख आधारित उत्पादों सहित राख के उपयोग के संबंध में और अधिक अनुसंधान करने के लिए भी निधि का उपयोग किया जा सकता है।
(ii) अप्रयुक्त मात्रा पर लगाए गए पर्यावरणीय प्रतिकर के पश्चात भी राख के उपयोग का उत्तरदायित्व ताप विद्युत संयंत्रों की होगी और यदि पश्चातवती चक्रों में पर्यावरणीय प्रतिकर लगाने के पश्चात ताप विद्युत संयंत्र, किसी विशेष चक्र की राख के उपयोग के लक्ष्य को प्राप्त करता है तो अगले चक्र के दौरान अप्रयुक्त मात्रा पर एकत्र की गई पर्यावरणीय प्रतिकर में 10 प्रतिशत कटौती के पश्चात उक्त रकम ताप विद्युत संयंत्र को वापस कर दी जाएगी और पश्चातवती चक्रों में राख के उपयोग के मामले में एकत्र की गई पर्यावरणीय प्रतिकर की 20 प्रतिशत, 30 प्रतिशत और उसी क्रम में कटौती की जानी है।

घ. राख या राख आधारित उत्पादों की आपूर्ति हेतु प्रक्रिया .—

- (1) ताप विद्युत संयंत्रों के स्वामी अथवा राख की ईंटों या टाईल्स या धातुमल आधारित राख के विनिर्माता उन व्यक्तियों या अभिकरणों को लिखित सूचना देंगे जो बिक्री या परिवहन या दोनों के लिए प्रस्तुत राख या राख आधारित उत्पादों के उपयोग के लिए उत्तरदायी हैं।
- (2) ऐसे व्यक्ति या उपयोगकर्ता अभिकरणों जिन्हें ताप विद्युत संयंत्रों के स्वामी द्वारा या राख की ईंटों या टाईल्स या धातुमल आधारित राख के उत्पादकों द्वारा सूचना दी गई है, यदि वे पहले ही राख या राख उत्पादों के उपयोग के प्रयोजन से अन्य अभिकरणों के साथ जुड़े हुए हैं, यदि वे किसी भी राख/राख उत्पादों का उपयोग नहीं कर सकते हैं अथवा कम मात्रा का उपयोग कर सकते हैं, तदनुसार ताप विद्युत संयंत्र को सूचित करेंगे।

ड. प्रवर्तन, निगरानी, लेखा परीक्षा और प्रतिवेदन करना

- (1) केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी), उपबंधों के अनुपालना सुनिश्चित करने के लिए प्रवर्तन और निगरानी प्राधिकरण होंगे। सीपीसीबी या एसपीसीबी या पीसीसी तिमाही आधार पर राख के उपयोग की निगरानी करेंगे और सीपीसीबी इस प्रयोजन के लिए अधिसूचना की प्रकाशन की तारीख से छः माह के भीतर एक पोर्टल विकसित करेगा। संबंधित जिला अधिकारी के पास इस अधिसूचना के उपबंधों को लागू करने और निगरानी करने के लिए समवर्ती अधिकारिता होगी।
- (2) (i) ताप विद्युत संयंत्र, राख उत्सर्जन और उपयोग से संबंधित मासिक सूचना वेब पोर्टल पर अगले महीने की 5 तारीख तक अपलोड करेगा। कोयला या लिग्नाइट आधारित ताप ऊर्जा संयंत्रों द्वारा केंद्रीय प्रदूषण नियंत्रण बोर्ड, संबंधित राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति (पीसीसी), केंद्रीय विद्युत प्राधिकरण (सीईए) और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के संबंधित एकीकृत क्षेत्रीय कार्यालयों को इस अधिसूचना के उपबंधों के अनुपालन संबंधी सूचना उपलब्ध कराते हुए वार्षिक कार्यान्वयन रिपोर्ट प्रत्येक वर्ष (1 अप्रैल से 31 मार्च तक की अवधि के लिए) अप्रैल माह के 30वें दिन तक प्रस्तुत की जाएगी। सीपीसीबी और सीईए द्वारा सभी ताप विद्युत संयंत्रों द्वारा प्रस्तुत वार्षिक रिपोर्टों का समेकन किया जाएगा और उसे पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को 31 मई तक प्रस्तुत किया जाएगा।
- (ii) सभी अन्य उपयोगकर्ता अधिकरण पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय या राज्य स्तरीय पर्यावरण प्रभाव आकलन प्राधिकरण (एसईआईएए) द्वारा जारी पर्यावरणीय मंजूरी (ईसी) अथवा राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) द्वारा जारी संचालन की सहमति (सीटीओ), जो भी लागू हो, की अनुपालना रिपोर्ट में इस अधिसूचना में आज्ञापकता के अनुसार राख के उपभोग या उपयोग या निस्तारण तथा राख आधारित उत्पादों के उपयोग संबंधी सूचना प्रस्तुत करेंगे। केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) या राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) अधिसूचना के उपबंधों के प्रभावी कार्यान्वयन की समीक्षा करने हेतु ताप विद्युत संयंत्रों के अतिरिक्त अन्य सभी अधिकरणों की राख उपयोग की वार्षिक रिपोर्ट प्रकाशित करेंगे।
- (3) इस अधिसूचना के उपबंधों की निगरानी और कार्यान्वयन के प्रयोजन के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) की अध्यक्षता में एक समिति का गठन किया जाएगा जिसके सदस्य विद्युत मंत्रालय, कोयला मंत्रालय, खनन मंत्रालय, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, सड़क परिवहन और राजमार्ग मंत्रालय और भारी उद्यम विभाग से होने के साथ-साथ समिति के अध्यक्ष द्वारा नामित किए जाने वाले कोई संबंधित पणधारी होंगे। यह समिति संगत पणधारी को आमंत्रित कर सकती है। यह समिति इस अधिसूचना के उपबंधों के प्रभावी और दक्ष कार्यान्वयन के लिए सिफारिशें कर सकती है। यह समिति छः माह में कम से कम एक बार एक बैठक करेगी और वार्षिक कार्यान्वयन रिपोर्टों की समीक्षा करेगी और यह समिति, इस अधिसूचना द्वारा आज्ञापक किए गए अनुसार छः महीनों में कम से कम एक बार संगत पणधारी (को) को आमंत्रित करके राख के उपयोग की निगरानी करने के लिए पणधारी से साथ परामर्शदात्री बैठकें आयोजित करेगी। यह समिति पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफसीसी) को छः मासिक रिपोर्ट प्रस्तुत करेगी।

- (4) ताप विद्युत संयंत्रों और राख के उपयोगकर्ताओं या राख आधारित उत्पादों के विनिर्माताओं के बीच के विवाद का समाधान करने के प्रयोजन से राज्य सरकारें या संघ राज्यक्षेत्र की सरकारें इस अधिसूचना के प्रकाशन की तारीख से तीन माह के भीतर राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) की अध्यक्षता में एक समिति का गठन करेंगी जिसमें विद्युत विभाग के प्रतिनिधि और एक प्रतिनिधि उस विभाग का होगा, जो विवाद वाले संबंधित अभिकरण का कार्य देख रहे हैं।
- (5) केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) द्वारा प्राधिकृत लेखा परीक्षकों द्वारा ताप विद्युत संयंत्रों और उपयोगकर्ता अभिकरणों द्वारा किए गए राख के निपटान की अनुपालन लेखा परीक्षा संचालित की जाएगी और लेखा परीक्षा की रिपोर्ट प्रत्येक वर्ष 30 नवम्बर तक केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) को प्रस्तुत की जाएगी। केन्द्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड (एसपीसीबी) या प्रदूषण नियंत्रण समिति (पीसीसी) लेखा परीक्षा की रिपोर्ट प्राप्त होने के पंद्रह दिनों के भीतर अनुपालन न करने वाले ताप विद्युत संयंत्रों के विरुद्ध कार्रवाई प्रारंभ करेंगे।

[फा. सं. एचएसएम-9/1/2019-एचएसएम]

नरेश पाल गंगवार, संयुक्त सचिव

उपाबंध

31 मई तक अथवा उससे पहले प्रस्तुत की जाने वाली राख संबंधी उपबंधों की अनुपालन रिपोर्ट (01 अप्रैल से 31 मार्च की अवधि के लिए)।

क्र.सं.	ब्यौरा	
1.	विद्युत संयंत्र का नाम	
2.	कंपनी का नाम	
3.	जिला	
4.	राज्य	
5.	पत्राचार के लिए डाक का पता :	
6.	ई-मेल :	
7.	विद्युत संयंत्र की संस्थापित क्षमता (मेगा वॉट) :	
8.	संयंत्र लोड फैक्टर (पीएलएफ) :	
9.	उत्पादित यूनिटों की संख्या (एमडब्ल्यूएच) :	
10.	विद्युत संयंत्र के अंतर्गत कुल क्षेत्र (हेक्टेयर) (राख कुंडों के अधीन क्षेत्र सहित) :	
11.	रिपोर्टिंग की अवधि के दौरान कोयला खपत की मात्रा (प्रति वर्ष मीट्रिक टन) :	
12.	औसत राख सामग्री प्रतिशतता में (%) :	
13.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख की मात्रा (प्रति वर्ष मीट्रिक टन) : फ्लाय राख (प्रति वर्ष मीट्रिक टन) : बॉटम राख (प्रति वर्ष मीट्रिक टन) :	
14.	ड्राई फ्लाय राख भंडारण गड्ढा (गड्ढों) की क्षमता (मीट्रिक टन) :	
15.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख के उपयोग का ब्यौरा: (क) रिपोर्टिंग की अवधि के दौरान वर्तमान में उपयोग की गई राख की	

	<p>कुल मात्रा (एमटीपीए) :</p> <p>(ख) उपयोग की गई फ्लाई राख की मात्रा (एमटीपीए) :</p> <ol style="list-style-type: none"> i. फ्लाई-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर सीमेंट शीट या पाइप या बोर्ड/पैनल) : ii. सीमेंट विनिर्माण : iii. रेडी मिक्स कंक्रीट : iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री : v. सिंटेड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण : vi. सड़कों, सड़क और फ्लाई ओवर के पुशतों का निर्माण : vii. बांधों का निर्माण : viii. निम्न भू-क्षेत्र का भराव : ix. खनिज क्षेत्रों का भराव : x. अधिभार वाले डम्पों में उपयोग : xi. कृषि : xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण : xiii. अन्य देशों को राख का निर्यात : xiv. अन्य (कृपया विनिर्दिष्ट करें) : <p>(ग) उपयोग किए गए तल के राख की मात्रा (एमटीपीए) :</p> <ol style="list-style-type: none"> i. फ्लाई-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर सीमेंट शीट या पाइप या बोर्ड या पैनल) : ii. सीमेंट विनिर्माण : iii. रेडी मिक्स कंक्रीट : iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री : v. सिंटेड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण : vi. सड़कों, सड़क और फ्लाईओवर के पुशतों का निर्माण : vii. बांधों का निर्माण : viii. निम्न भू-क्षेत्र का भराव : ix. खनिज क्षेत्रों का भराव : x. अधिभार वाले डम्पों में उपयोग : xi. कृषि : xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण : xiii. अन्य देशों को राख का निर्यात : xiv. अन्य (कृपया विनिर्दिष्ट करें) : <p>रिपोर्टिंग की अवधि के दौरान वर्तमान में अप्रयुक्त राख की कुल मात्रा (एमटीपीए) :</p>	
16.	रिपोर्टिंग की अवधि के दौरान वर्तमान में उत्पादित राख का प्रतिशतता उपयोग (%) :	
17.	<p>राख कुण्डों में राख के निपटान का ब्यौरा</p> <p>क) तारीख 31 मार्च तक (रिपोर्टिंग की अवधि को छोड़कर) राख कुण्ड (कुण्डों) में निपटान किए गए राख की कुल मात्रा (मीट्रिक टन):</p>	

	<p>ख) रिपोर्टिंग की अवधि के दौरान राख कुण्ड (कुण्डों) में निपटान किए गए राख की मात्रा (मीट्रिक टन):</p> <p>ग) रिपोर्टिंग की अवधि के दौरान राख कुण्डों में गारा निस्सरण हेतु खपत हुए जल की कुल मात्रा (मी³):</p> <p>घ) राख कुण्डों की कुल संख्या:</p> <p>(i) सक्रिय:</p> <p>(ii) खाली किए गए (पुनः भरा जाना है)</p> <p>(iii) पुनः भरे गए:</p> <p>ड.) राख कुण्डों के अधीन कुल क्षेत्र (हेक्टेयर):</p>	
18.	<p>अलग-अलग राख कुण्ड का ब्यौरा</p> <p>राख कुण्ड 1,2 आदि (यदि राख कुण्डों की संख्या एक से अधिक हो, तो कृपया निम्नलिखित ब्यौरा अलग से उपलब्ध कराएं)</p> <p>क) स्थिति: निर्माणाधीन या सक्रिय या खाली किया गया या पुनः भरा गया</p> <p>ख) राख कुण्ड में राख का निपटान शुरू करने की तारीख/महीना/वर्ष या महीना/वर्ष):</p> <p>ग) राख कुण्ड की क्षमता पूर्ण किए जाने के पश्चात् उसमें राख निपटान रोकने की तारीख</p> <p>(तारीख/महीना/वर्ष या महीना/वर्ष):</p> <p>(सक्रिय राख कुण्डों के लिए लागू नहीं)</p> <p>ग) क्षेत्र (हेक्टेयर):</p> <p>घ) डाइक की ऊंचाई (मी.):</p> <p>घ) आयतन (मी³):</p> <p>ड.) तारीख 31 मार्च तक निपटान किए गए राख की मात्रा (मीट्रिक टन):</p> <p>च) उपलब्ध आयतन का प्रतिशत (%) और आगे निपटान किए जा सकने वाले राख की मात्रा (मीट्रिक टन):</p> <p>छ) राख कुण्ड के भरे जाने की अनुमानित अवधि (वर्षों और महीनों की संख्या):</p> <p>ड.) निर्देशांक (अक्षांश और देशान्तर):</p> <p>(कृपया न्यूनतम 4 निर्देशांकों को विनिर्दिष्ट करें)</p> <p>ज) राख कुण्ड में की गई लाइनिंग का प्रकार: एचडीपीई लाइनिंग या एलडीपीई लाइनिंग या क्ले लाइनिंग या कोई लाइनिंग नहीं</p> <p>छ) निपटान की विधि: शुष्क निपटान या नम गारा (नम गारा के मामले में कृपया विनिर्दिष्ट करें कि क्या एचसीएसडी या एमसीएसडी या एलसीएसडी है)</p> <p>ज) राख का अनुपात: गारा मिश्रण में जल (1:____):</p> <p>झ) संस्थापित और कार्यशील राख जल पुनर्चक्रण प्रणाली (एडब्ल्यूआरएस): हां या नहीं</p> <p>ञ) जमीन के अंदर या जल निकाय में राख कुण्ड से निस्सरित अपशिष्ट जल की मात्रा (मी³):</p> <p>ट) डाइक की स्थिरता का अध्ययन कराए जाने की पिछली तारीख और उस संगठन का नाम जिसने अध्ययन किया:</p> <p>ठ) लेखा-परीक्षा किए जाने की पिछली तारीख और उस संगठन का नाम जिसने लेखा-परीक्षा की:</p>	
19.	<p>उपयोग किए गए पुराने राख की मात्रा (एमटीपीए):</p> <p>i. फ्लाई-एश आधारित उत्पाद (ईट या ब्लॉक या टाइल्स या फाइबर</p>	

	सीमेंट शीट या पाइप या बोर्ड या पैनल):			
	ii. सीमेंट विनिर्माण:			
	iii. रेडी मिक्स कंक्रीट:			
	iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री:			
	v. सिंटर्ड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण:			
	vi. सड़कों, सड़क और फ्लाई ओवर के पुश्तों का निर्माण:			
	vii. बांधों का निर्माण:			
	viii. निम्न भू-क्षेत्र का भराव:			
	ix. खनिज क्षेत्रों का भराव:			
	x. अधिभार वाले डम्पों में उपयोग:			
	xi. कृषि:			
	xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण:			
	xiii. अन्य देशों को राख का निर्यात			
	xiv. अन्य (कृपया विनिर्दिष्ट करें):			
20.	सार :			
	व्यौरा	सृजित मात्रा (एमटीपी)	उपयोग की गई मात्रा (एमटीपी) और (%)	शेष मात्रा (एमटीपी)
	रिपोर्टिंग की अवधि के दौरान राख			
	पुरानी राख			
	कुल			
21.	कोई अन्य सूचना : वार्षिक अनुपालन रिपोर्ट, और विद्युत संयंत्रों और राख कुण्डों की शेष फाइलों की सॉफ्ट कॉपी ई-मेल:- moefcc- coalash@gov.in पर भेजी जाए।			
22.	प्राधिकृत हस्ताक्षरकर्ता के हस्ताक्षर			

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 31st December, 2021

S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;

And whereas, to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification; and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector;

And whereas, there is a need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials;

And whereas, it is necessary to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And whereas, in the said notification the phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants;

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) *vide* S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), *vide* G.S.R. 285(E), dated the 22nd April, 2021 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft provisions were made available to the public;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.—

- (1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);
- (2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-
 - (i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;
 - (ii) Cement manufacturing, ready mix concrete;
 - (iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;
 - (iv) Construction of dam;
 - (v) Filling up of low lying area;
 - (vi) Filling of mine voids;
 - (vii) Manufacturing of sintered or cold bonded ash aggregate;
 - (viii) Agriculture in a controlled manner based on soil testing;
 - (ix) Construction of shoreline protection structures in coastal districts;

- (x) Export of ash to other countries;
- (xi) Any other eco-friendly purpose as notified from time to time.
- (3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Sub-paragraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.
- (4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance cycle onwards, to meet 100 per cent utilisation
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and <60 per cent, respectively.

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

- (5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1 st	2 nd	3 rd -10 th
Utilisation of legacy ash (in percentage of Annual ash)	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

- (6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.
- (7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.
- (8) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.
- (9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).
- (10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. For the purpose of utilisation of ash, the subsequent sub-paras shall apply.—

- (1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

- (2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government Agencies.

- (3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost of transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

- (4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.
- (ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.
- (5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.
- (ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.
- (6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.
- (7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

- (8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.
- (9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance.—

- (1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

- (2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.
- (3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.
- (4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).
- (5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).
- (6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

- (7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any

particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

- (1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.
- (2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

- (1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.
- (2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.
- (3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

- (4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.
- (5) The compliance audit for ash disposal by the thermal power plants and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Jt. Secy.

Annexure

Ash Compliance Report (for the period 1st April-31st March) to be submitted on or before 31st May.

Sl. No.	Details	
1.	Name of Power Plant	
2.	Name of the company	
3.	District	
4.	State	
5.	Postal address for communication:	
6.	E-mail:	
7.	Power Plant installed capacity (MW):	
8.	Plant Load Factor (PLF):	
9.	No. of units generated (MWh):	
10.	Total area under power plant (ha): (including area under ash ponds)	
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	
12.	Average ash content in percentage (per cent):	
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	
15.	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing:	

	<ul style="list-style-type: none"> (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and fly over embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts; (xiii) Export of ash to other countries: (xiv) Others (please specify): <p>(c) Quantity of bottom ash utilised (MTPA):</p> <ul style="list-style-type: none"> (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): (ii) Cement manufacturing: (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and flyover embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts: (xiii) Export of ash to other countries: (xiv) Others (please specify): <p>Total quantity of current ash unutilised (MTPA) during reporting period:</p>	
16.	Percentage utilisation of current ash generated during reporting period (per cent):	
17.	<p>Details of disposal of ash in ash ponds</p> <p>(a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period):</p> <p>(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):</p> <p>(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m³):</p> <p>(d) Total number of ash ponds:</p> <ul style="list-style-type: none"> (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed: <p>(e) total area under ash ponds (ha):</p>	
18.	<p>Individual ash pond details</p> <p><i>Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)</i></p> <p>(a) Status: Under construction or Active or Exhausted or</p>	

	<p>Reclaimed</p> <p>(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):</p> <p>(c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash ponds)</p> <p>(c) area (hectares):</p> <p>(d) dyke height (m):</p> <p>(d) volume (m³):</p> <p>(e) quantity of ash disposed as on 31st March (Metric Tons):</p> <p>(f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):</p> <p>(g) expected life of ash pond (number of years and months):</p> <p>(e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)</p> <p>(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining</p> <p>g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)</p> <p>(h) Ratio of ash: water in slurry mix (1:___):</p> <p>(i) Ash water recycling system (AWRS) installed and functioning: Yes or No</p> <p>(j) Quantity of wastewater from ash pond discharged into land or water body (m³):</p> <p>(k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:</p> <p>(l) Last date when the audit was conducted and name of the organisation who conducted the audit:</p>									
19.	<p>Quantity of legacy ash utilised (MTPA):</p> <ol style="list-style-type: none"> i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and flyover embankment: vii. Construction of dams: viii. Filling up of low lying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify): 									
20.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4">Summary:</td> </tr> <tr> <td>Details</td> <td>Quantity generated (MTP)</td> <td>Quantity utilised (MTP) and (per cent)</td> <td>Balance quantity (MTP)</td> </tr> </table>	Summary:				Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)	
Summary:										
Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)							

	Current ash during reporting period			
	Legacy ash			
	Total			
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc-coalash@gov.in			
22.	Signature of Authorised Signatory			

From: Bhavesh Doshi <Bhavesh.heil@hindujagroup.com>

Sent: Wednesday, March 13, 2024 5:53:17 PM

To: Lakkineni, Venkateswara Rao <venkateshwara.lakkineni@dentonslinklegal.com>; Kulshreshtha, Pranshul <pranshul.kulshreshtha@dentonslinklegal.com>

Cc: Prasenjit Guha <prasenjit.hnp@hindujagroup.com>; Sidhartha Das <sidharthadas.hnp@hindujagroup.com>; garlasreenivas@gmail.com <garlasreenivas@gmail.com>; Sharma, Abhishek <abhishek.sharma@dentonslinklegal.com>; Charan, Ravi P <ravi.charan@dentonslinklegal.com>; Bonam, Grancy <grancy.bonam@dentonslinklegal.com>; garlasreenivas@gmail.com <garlasreenivas@gmail.com>; Garla Sreenivas <gsreenivas.hnp@hindujagroup.com>; Shubham Arya <shubhamarya@rassociates.in>; Ravi Nair <ravinair@rassociates.in>

Subject: RE: HNPCL's MYT Petition for the Fifth Control period (2024-2029)

[WARNING: EXTERNAL SENDER]

Dear Pranshul / Venkat,

PFA below payment confirmation:

Payment was completed with Journal no. 283359041.

13-Mar-2024 (13-Mar-2024)	TO TRANSFER MYT PETITION AT APERC	TRANSFER TO 33888237865 AP ELECTRICITY REGULAT	2,00,00,000.00
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Best regards,

Bhavesh Doshi