MAHAGENCO
Maharashtra State Power Generation Co. Ltd.

MAHARASHTRA STATE POWER GENERATION CO. LTD.

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Regulatory And Commercial Dept
Prakashgad, 3rd Floor,
Bandra (E) Mumbai 400 051

Ref No.: RCD26/8L/LT1027 **Date:** 31.07.2026

To,

The Secretary,
Maharashtra Electricity Regulatory Commission,
13th Floor, Centre 1, World Trade Centre,
Cuffe Parade, Mumbai

Sub: Submission of Revised consolidated Petition in the matter of Case No. 195 of 2025 in response to compliance to data gap raised by Hon'ble Commission on dtd. 3rd June 2026 after TVS.

Ref:

1. MERC (Multi Year Tariff) Regulations, 2019.
2. MERC (Multi Year Tariff) Regulations, 2024.
3. MERC Case No. 236 of 2023.
4. MERC Case No. 187 of 2024.
5. RCD25/8L/LT07471 Dtd. 20.08.2025 MSPGCL's petition for Bhusawal 660 MW.
6. Data gap set I received from MERC office on dtd.08.12.2025 on E-mail.
7. Replies to Data gap set I & II submitted by MSPGCL to MERC on dtd.12.12.2025 & 30.01.2026 through e-mail.
8. Technical Validation Session held on 03.06.2026.
9. Additional Data gaps received from MERC office on E-Mail. 27.07.2026
10. Replies to data gap submitted by MSPGCL to MERC on dtd.27.07.2026 through e-mail.

Respected Sir,

MSPGCL has commissioned the 660 MW Thermal Power project as a replacement project at Bhusawal. The Bhusawal Unit 660 MW Unit has achieved Commercial Operational Date as on 22.02.2025. The applicable MERC MYT Tariff Regulations, 2019 provide the following regarding filing of tariff petition for new generating unit

"39.9 The Generating Company shall file the Petition for determination of final Tariff for new Generating Station within six months from the date of commercial operation of Generating Unit or Stage or Generating Station as a whole, as the case may be, based on the audited capital expenditure and capitalisation as on the date of commercial operation:

Provided that in case of more than one Unit in the Generating Station, such Petition shall be filed for each Unit as and when such Unit achieves COD and without waiting for the COD of the entire Station."

Accordingly, on 20.08.2025 , MSPGCL has filed the Petition for approval of Capital Cost, Determination of Final Tariff & Approval of Aggregate Revenue Requirement (ARR) for FY 2024-25, Provisional True Up of FY 2024-25 and Determination of Multi Year Tariff (MYT) for the Control Period FY 2025-26 to FY 2029-30 of Bhusawal Unit 06 (1 X 660 MW) Thermal Plant, under section 61 & 62 of the Electricity Act 2003, MERC (Multi Year Tariff) Regulations, 2019 and MERC (Multi Year Tariff) Regulations, 2024,under ref.5 (MERC case no. 195/2025)

Subsequently, data gaps were raised on dtd. 08.12.2025. MSPGCL has submitted the replies to the data gaps on 12.12.2025 & 30.01.2026 through e-mail.

The Technical Validation Session in the matter was held on dtd. 03.06.2026.

Additional data gaps are communicated by Hon'ble Commission vide e-mail dtd. 03.06.2026 and has directed to submit the revised petition. MSPGCL has submitted replies to data gaps on dtd.27.07.2026 through e-mail.

Now, MSPGCL is filing herewith the consolidated revised petition in the matter of Case no. 195/2025, by incorporating the submission made in the replies to the data gaps and changes/corrections in earlier submission as per revised inputs.

Earlier on dtd. 18.08.2025 MSPGCL has deposited the necessary fee of Rs. 14, 10,000/- (Rs. Fourteen Lakhs Ten Thousand only) vide RTGS Transaction No. **CNRBR52025081863529857**, through Canara Bank, Mumbai, to MERC Mumbai.

MSPGCL request Hon'ble Commission to accept the Consolidated Revised Petition.

Thanking you.

Yours faithfully,

Chief Engineer (RCD), MSPGCL

Encl.: Affidavits, Petition with Annexures

Before the Hon'ble Maharashtra Electricity Regulatory Commission, Mumbai

Filing No.________

Case No. 195 of 2025

IN THE MATTER OF:

Revised Consolidated Petition for approval of Capital Cost, Determination of Final Tariff & Approval of Aggregate Revenue Requirement (ARR) for FY 2024-25, Provisional True Up of FY 2024-25 and Determination of Multi Year Tariff (MYT) for the Control Period FY 2025-26 to FY 2029-30 of Bhusawal Unit 06 (1 X 660 MW) Thermal Plant, under section 61 & 62 of the Electricity Act 2003, MERC (Multi Year Tariff) Regulations, 2019 and MERC (Multi Year Tariff) Regulations, 2024.

AND

IN THE MATTER OF THE APPLICANT:

Maharashtra State Power Generation Company Limited.
Chief Engineer (Regulatory & Commercial Department),
3rd Floor, Prakashgad, Plot No. G-9. Prof. A.K. Marg,
Bandra (East), Mumbai – 400051

................................Petitioner

NOTARY SANTOSH K. SINGH GR. MUMBAI Maharashtra Regn. No. 11167 GOVERNMENT OF INDIA

Maharashtra State Electricity Distribution Company Limited.
Chief Engineer (Power Purchase),
5th Floor, Prakashgad, Plot No. G-9, Prof. A. K. Marg,
Bandra (East), Mumbai – 400051

NOTARY SANTOSH K. SINGH Mumbai Maharashtra Reg. No. 11167 Exp.- 06.04.2030 GOVERNMENT OF INDIA

.............................Respondent

Affidavit on behalf of Maharashtra State Power Generation Company Limited.

I, **Girish Kumarwar**, son of **Sudhakarrao Kumarwar**, aged about 57 years, working at Maharashtra State Power Generation Company Limited, Prakashgad 3rd Floor, having address at Plot No. G-9, Bandra (East) Mumbai-400 051, do hereby solemnly affirm and sincerely state as follows:-

1. I am the Chief Engineer (Regulatory and Commercial Dept.) of the Maharashtra State Power Generation Company Limited, the petitioner in the

above matter and am duly authorized by the said Petitioner to make this affidavit.

2. The statements made in the enclosed submission are based on the information from the concerned officers of the Company and I believe them to be true.

3. I say that there are following matters pending before various authorities.

   a. Petition before Hon'ble MERC, MERC Case No. 186/MP/2025 Dtd. 05.08.2025 for allowing MSPGCL to Claim Supplementary bills raised by MSLDC under FAC Mechanism and Direct MSEDCL to make the Payment towards such Supplementary Bills.

   b. Appeal before Hon'ble APTEL as Appeal No. 190 of 2025 at New Delhi, Appeal against the Order Dtd. 28.03.2025 passed by the Maharashtra Electricity Regulatory Commission in Case No. 187 of 2024 filed by MSPGCL for approval of True-up for FY 2022-23 and FY 2023-24, Provisional True-up for FY 2024-25, and Aggregate Revenue Requirement and Multi-Year Tariff (MYT) for the Control Period from FY 2025-26 to FY 2029-30.

4. I solemnly affirm at Mumbai on this 31st day of July , 2026 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED MAHAGENCO RCD MUMBAI

Chief Engineer,

Regulatory and Commercial Dept., MSPGCL

Chief Engineer
(Regulatory & Commercial Department)

IDENTIFIED BEFORE ME

BEFORE ME

SANTOSH K. SINGH
NOTARY
MAHARASHTRA
(Govt. of India)

NOTARY SANTOSH K. SINGH Mumbai Maharashtra Reg. No. 11167 Exp.- 06.04.2030 GOVT. OF INDIA

30 JUL 2026

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Register No. 1487

Santosh K. Singh 30 JUL 2026

Petition for Approval of Capital Cost, Determination of Final Tariff & Approval of Aggregate Revenue Requirement (ARR) for FY 2024-25, Provisional True Up of FY 2024-25 and Determination of Multi-Year Tariff (MYT) for the Control Period FY 2025-26 to FY 2029-30

of

Unit 6 (1 x 660 MW) Of the Bhusawal Thermal Power Station

MAHAGENCO
Maharashtra State Power Generation Co. Ltd.

Maharashtra State Power Generation Company Limited

Contents

List of Tables

List of Abbreviations

Abbreviation	Description
AFC	Annual Fixed Cost
AHP	Ash Handling Plant
ARB	As Received Basis
ARR	Aggregate Revenue Requirement
BHEL	Bharat Heavy Electricals Limited
BOP	Balance of Plant
BTG	Boiler, Turbine, Generator
BTL	Boiler Tube Leakage
BTPS	Bhusawal Thermal Power Station
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CHP	Coal Handling Plant
COD	Commercial Operation Date
DPR	Detailed Project Report
DSM	Delayed Settlement Mechanism
EC	Environment Clearance
ECR	Energy Charge Rate
ECS	Emission Control System
EFOR	Equivalent Forced Outage Rates
EPC	Engineering, Procurement & Construction
ESP	Electrostatic Precipitator
FEGT	Furnace Exit Gas Temperature
FGD	Flue Gas Desulfurization
FSA	Fuel Supply Agreement
FUP	Fuel Utilisation Plan
GCMPL	Global Coal & Mining Private Limited
GCV	Gross Calorific Value
GFA	Gross Fixed Asset
GoI	Government of India
GoM	Government of Maharashtra
GST	Goods and Service Tax
HO	Head Office Cost
ICB	International Competitive Bidding
IDC	Interest During Construction
IoWC	Interest on Working Capital
JV	Joint Venture
kWh	Kilo Watt Hour
LD	Liquidated Damages

Abbreviation	Description
LOA	Letter of Award
LPS	Late Payment Surcharge
MCL	Mahanadi Coalfields Limited
MDBFP	Motor-Driven Boiler Feed Pump
MERC	Maharashtra Electricity Regulatory Commission
MoC	Ministry of Coal
MoD	Merit Order Dispatch
MoE&F	Ministry of Environment & Forests
MoP	Ministry of Power
MPCB	Maharashtra Pollution Control Board
MSEDCL	Maharashtra State Electricity Distribution CO. Ltd.
MSETCL	Maharashtra State Electricity Transmission Co. Ltd.
MSLDC	Maharashtra State Load Dispatch Centre
MSPGCL	Maharashtra State Power Generation Co. Ltd.
MMTPA	Million Metric Tonnes Per Annum
MTR	Mid Term Review
MW	Mega Watt
MYT	Multi Year Tariff
NHAI	National Highway Authority of India
NTI	Non-Tariff Income
NTPC	National Thermal Power Corporation
O&M	Operational and Maintenance
PAF	Plant Availability Factor
PLF	Plant Load Factor
PPA	Power Purchase Agreement
PV	Price Variation
REC	Rural Electrification Corporation
RGO	Renewable Generation Obligation
ROE	Return on Equity
RSR	Rail-Sea-Rail
SCR	Selective Catalytic Reduction
SFOC	Specific Fuel Oil Consumption
SHR	Station Heat Rate
Solar PV	Solar Photovoltaic
STP	Sewage Treatment Plant
TPP	Thermal Power Plant
WAROI	Weighted Average Rate of Interest
WPI	Wholesale Price Index

List of Annexures:

Before the Hon'ble Maharashtra Electricity Regulatory Commission, Mumbai

Filing No…………

Case No. …………

IN THE MATTER OF:

PETITION FOR APPROVAL OF CAPITAL COST, AGGREGATE REVENUE REQUIREMENT (ARR) AND DETERMINATION OF TARIFF FOR FY 2024-25 AND MULTI YEAR TARIFF (MYT) CONTROL PERIOD FY 2025-26 TO FY 2029-30 OF UNIT 6 (1 X 660 MW) OF BHUSAWAL THERMAL POWER STATION.

AND

IN THE MATTER OF THE APPLICANT:

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED

PRAKASHGAD, PLOT NO. G-9,

BANDRA (E), MUMBAI – 400 051 ....PETITIONER

AND

IN THE MATTER OF THE APPLICANT:

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED

PRAKASHGAD, PLOT NO. G-9,

BANDRA (E), MUMBAI – 400 051 ....RESPONDENT

IN THE MATTER OF:

PETITION UNDER SECTION 61, 62 AND 86 (1) (a) & (b) OF THE ELECTRICITY ACT, 2003 READ WITH REGULATION 5.1 (a) AND 39.9 OF MERC (MYT) REGULATIONS 2024 AND READ WITH PART E OF MERC (MYT) REGULATIONS, 2019 AND PART E OF MERC (MYT) REGULATIONS, 2024, AND READ WITH REGULATION 14 OF MERC (TRANSACTION OF BUSINESS AND FEES AND CHARGES) REGULATIONS 2022;

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1 Executive Summary

1.1 Background and Scope of Petition

1.1.1.1 Maharashtra State Power Generation Company Limited (hereinafter referred to as MSPGCL or Petitioner) is a Company formed under the Government of Maharashtra General Resolution No. ELA- 003/P.K.8588/Bhag-2/Urja-5 dated January 24, 2005 with effect from June 6, 2005. The company is operating under the provisions envisaged in the Electricity Act 2003. MSPGCL is the largest state generation company in the country with an overall installed capacity of 13880.55 MW as on 31st March 2025.

1.1.1.2 The Hon'ble Commission, vide Order dated 01.08.2018 in Case No. 154 of 2018 allowed MSPGCL to install 1x660 MW as replacement project at Bhusawal. Accordingly, the Petitioner has constructed (1x660 MW) (Unit- VI) Super-Critical Technology Bhusawal Coal Based TPP in an area of 115.93 Ha at Village Pimpri-Sekam, Taluka Bhusawal, District Jalgaon, Maharashtra. The Bhusawal Unit 6 has achieved CoD on 22.02.2025.

1.1.1.3 MSPGCL is filing this Petition before the Hon'ble Commission to seek approval of the capital cost of Bhusawal Unit 6 and accordingly determination of ARR from FY 2024-25 to FY 2029-30 as per MERC (MYT) Regulations 2019 and 2024 respectively and provisional True Up of FY 2024-25.

1.1.1.4 MSPGCL by means of this present petition submitting the following for the kind consideration of the Hon'ble Commission:

a. Determination of Capital Cost for Bhusawal Unit 6.
b. Determination of Tariff for FY 2024-25 as per MERC (MYT) Regulations 2019.
c. Provisional True Up of FY 2024-25 as per MERC (MYT) Regulations 2019.
d. Determination of Multi Year Tariff (MYT) for the 5th Control Period FY 2025-26 to FY 2029-30 based on the principles provided in the MERC (MYT) Regulations 2024.

1.2 Capital Cost for Bhusawal Unit 6

1.2.1.1 The contract was awarded to M/s BHEL for supply and installation of Main Plant & equipment and for balance of Plant (BoP) and Civil structure works of the main plant.

1.2.1.2 As per the Tariff Regulations, actual expenditure incurred up to the Commercial Operation date (COD) of the unit shall form the basis of the capital cost of the project subject to prudence check by the Hon'ble Commission. The overall break-up of capital cost of the project as on COD of Bhusawal Unit 6 is provided as under:

Table 1: Capital cost of Bhusawal Unit 6 as on COD (Rs. Crore)

Cost Element	Capital Cost (Rs. Crores)
	As on 22-Feb-2025
Cost of Land & Site Development	31.73
Plant & Equipment (BTG)	3,325.62
Taxes	-
Initial spares	96.11
Construction & Pre- Commissioning Expenses	89.97
Unbilled infirm power	203.13
Other Works	63.85
PV	527.89
CSR	4.58
Overheads	338.24
Consultancy	9.23
Hard Cost	**4,690.35**
Add: IDC	1,122.03
Total Capital cost	**5,812.38**

1.3 Financing Plan

1.3.1.1 Capital cost of Bhusawal unit 6 is funded through a combination of debt and equity, as on the Commercial Operation Date (CoD). MSPGCL has tied up long term debt of Rs. 3432 Crore at the rate of 9.15% p.a. with three-year reset towards Main Plant of Bhusawal unit 6. Subsequently MSPGCL has availed the additional loan sanctioned of Rs.1232.46 Crore as an additional loan and Rs.524 Crore towards additional scope for installation of FGD & SCR and other modification works from REC. At the time of COD of Bhusawal Unit 6 the capitalized amount of Rs 5812.38 Crore is funded through total equity of Rs. 858 Crore, which is received from Government of Maharashtra (GoM) and balance amount funded through loan. Further, MSPGCL has submitted request for the additional equity of Rs.412 Crore to GoM and as on date the receipt of the same is awaited.

1.3.1.2 As per the above said project cost, means of finances for the project cost as on CoD are shown in the table below:

Table 2: Means of Finance for Bhusawal Unit 6 (Rs. Crore)

Particulars	Amount (Rs. Crores)	Actual drawl as on CoD	Remark
Project Cost	**5,812.38**	**5,812.38**	
Debt			
REC			
Loan 1	3,432.00	3,432.00	Towards financing for Main Plant related capex
Loan 2	524.00	252.80	Towards installation of FGD & SCR and other modification works
Loan 3	1,232.46	775.96	for balance funding requirement
Total debt	**5,188.46**	**4,460.76**	
Equity	-		
GoM	858.00	858.00	
Undischarge liabilities		**493.62**	
Total Financing	**6,046.46**	**5,812.38**	

1.3.1.3 Accordingly, the overall funding pattern of the unit as on COD is indicated in the table below:

Table 3: Funding Ratio as on COD for Bhusawal Unit 6

Particulars	Rs. Crore	%
Total Capitalisation (a)	**5,812.38**	**100.00%**
Debt (b)	4,460.76	83.87%
Equity (c)	858.00	16.13%
Undischarge liabilities (d)	493.62	
Total funding(e=b+c+d)	**5,812.38**	**100.00%**

1.4 Tariff determination for FY 2024-25 and Provisional True Up of FY 2024-25

1.4.1.1 For the purpose of fixed charges, capital cost of Rs. 5812.38 Crore as on CoD have been considered. The parameters for fixed charges have been worked out in line with relevant provisions of MERC (MYT) Regulations 2019, in the following manner:

a) **Capital Cost & Additional Capitalisation**: The capital cost as on CoD is considered as Rs. 5,812.38 Crore. An additional capitalisation of Rs.23.68 Crore post-CoD is considered, resulting in a total capitalisation of Rs.5,836.07 Crore considered during FY 2024-25.

b) **O&M expenses** – Normative O&M expenses have been calculated as per Regulation 47.2 of MERC (MYT) Regulations, 2019, and prorated for 38 days (considering CoD on 22.02.2025). Actual O&M expenses are claimed as per actuals details. Impact of pay revision has been estimated capacity wise based on the impact of pay revision estimated at MSPGCL level in MYT Petition (Case No. 187 of 2024). Impact of wage revision is excluded and will be claimed at the time of final True-Up, in line with Regulation 47.1(e) of MERC (MYT) Regulations,

2019. CSR expenses, as mandated in the Environmental Clearance (EC), will also be claimed during the respective years' True-Up.

c) **Depreciation** - Computed as per Regulation 28 using the straight-line method on opening GFA, for the 38-day period post CoD.

d) **Interest on Loan**: Based on the normative average loan and weighted average interest rate, normative interest on loan is calculated. Finance charges will be claimed at the time of True-Up.

e) **Interest on Working Capital (IoWC)**: Calculated as per Regulation 32.1, considering the normative components and applying an IoWC rate of 10.5% (SBI MCLR + 150 bps).

f) **Return on Equity**: RoE for FY 2024-25 is computed at 14.50% (Base rate 14% + 0.5% for additional RoE linked to Ramp rate) on equity capital of Rs.862.74 Crore, prorated for 38 days. Additional RoE (linked to MTBF) as per Regulation 29.6 will be claimed at the time of final True-Up.

g) **Income Tax**: No income tax is proposed for FY 2024-25 as no tax was paid in preceding years.

h) **Non-Tariff Income (NTI)**: Rs.0.10 Crore claimed as per estimated basis. Actual NTI will be reported and considered during final True-Up of FY 2024-25.

1.4.1.2 **Annual Fixed Cost (AFC)**: Based on the above components, the AFC entitlement for Bhusawal Unit 6 for the 38-day operational period of FY 2024-25 has been computed and submitted for approval as shown below:

Table 4: AFC entitlement for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
O&M Charges	Rs. Crore	18.74	12.73
Water Charges	Rs. Crore		0.39
Additional O&M Charges - ECS	Rs. Crore	-	-
Depreciation	Rs. Crore	43.17	31.36
Interest on Loan	Rs. Crore	59.87	47.99
Interest on Loan - HO Assets	Rs. Crore	-	-
Interest on WC	Rs. Crore	10.83	12.75
Interest on WC - ECS	Rs. Crore	-	-
Income tax	Rs. Crore	-	-
Return on Equity	Rs. Crore	243.70	13.02
Other expneses	Rs. Crore	-	2.68
Less: Non-Tariff Income	Rs. Crore	-	0.10
Total AFC	Rs. Crore	**376.31**	**120.84**

1.4.2 Energy Charges

1.4.2.1 For the purpose of determination of Tariff for FY 2024-25, MSPGCL has worked out energy charges as per the MERC (MYT) Regulations 2019. The GCV of Fuel is derived on normative basis considering GCV-As billed as the base. Accordingly, while showcasing the actual fuel expenses towards actual generation, the Petitioner has recomputed the energy charges that can be allowed under the normative framework.

Table 5: Fuel cost of Bhusawal Unit 6 for FY 2024-25 (Rs. Crore)

Particulars	UoM	Normative	Actual
Cost of Coal	Rs. Crore	99.24	120.27
Cost of Oil	Rs. Crore	0.91	5.92
Total Fuel Cost	**Rs. Crore**	**100.15**	**126.19**

1.4.3 Provisional True Up of FY 2024-25

1.4.3.1 Based on the actual and normative ARR and considering the actual revenue received during FY 2024-25, following is the provisional True Up of FY 2024-25.

Table 6: Provisional True Up of FY 2024-25 (Rs. Crore)

Particulars	Provisional true-up (Normative)	Actual
Expenses side summary		
Return on Equity	13.02	13.02
Interest on Loan	47.99	47.99
Depreciation	31.36	31.36
O&M expenses	11.87	9.23
Pay Revision	0.87	0.87
Wage Revision		
Water Charges	0.39	0.39
Other Charges	2.68	2.68
Interest on Working Capital	12.75	12.75
Less: Non-Tariff Income	0.10	0.10
Annual Fixed Charges (A)	**120.84**	**118.21**
Fuel Cost (B)	100.15	126.19
Aggregate Revenue Requirement (C=A+B)	**220.99**	**244.40**
Revenue from sale of power (D)	158.23	158.23
Revenue Gap/(Surplus) (E=C-D)	**62.77**	**86.17**

1.5 MYT for 5th Control Period – FY 2025-26 to FY 2029-30

1.5.1 Fuel Utilisation Plan

1.5.1.1 The Petitioner submits the proposed coal sourcing plan for Bhusawal Unit 6 for the 5th MYT Control Period (FY 2025-26 to FY 2029-30), to ensure reliable fuel supply and achieve the normative availability and PLF of 85%.

1.5.1.2 **Coal Requirement**: Based on a normative SHR of 2139 kCal/kWh and ~ GCV of 3400 kCal/kg (‘as received’), the coal requirement for Bhusawal Unit 6 is estimated at approximately 3.19 MMTPA**.**

a) **Domestic Linkage**: The Petitioner has executed a MoU with WCL for 2.863 MMT, with supply already commenced post-CoD. This includes:

i. 0.85 MMT from Kolarpimpri Mine,
ii. 1.146 MMT from other mine-specific sources,
iii. 0.867 MMT from Waghoda Mine (expected from FY 2027-28).

b) **Rail-Sea-Rail (RSR) Movement**: In alignment with MoP and MoC directives, MSPGCL has implemented RSR coal movement from MCL (Odisha) to Maharashtra via Paradip and Dharamtar ports. This initiative has:

i. Ensured consistent coal quality (G-12 grade),
ii. Resulted in improved operational performance (higher PLF, reduced auxiliary consumption and SFOC),
iii. Enhanced logistical planning with 1.5 rakes/day allocated for RSR movement as per Sub-Group (Gencos) directive.

For MYT projections, 0.50 MMT of coal through the RSR route from MCL (GCV of 3508 kCal/kg) is considered for Bhusawal Unit 6.

c) **Imported Coal**: In compliance with MoP’s advisory (27.06.2024), MSPGCL had undertaken 4% blending of imported coal until 15.10.2024 for MSPGCL as a whole. No further advisories are in place, hence imported coal has not been considered in the Fuel Utilisation Plan for MYT Control Period for Bhusawal Unit 6.

d) **Coal Mix for FY 2025-26 to FY 2029-30**: At the time of submission of present Petition, since FY 2025-26 is already elapsed, hence for FY 2025-26 coal mix is considered based on the actual coal received. The proposed coal mix for FY 2026-27 to FY 2029-30 comprises domestic linkage coal, RSR coal from MCL, the details of which are provided in Fuel utilisation Plan, submitted in this Petition.

Table 7: GCV and price of coal considered for FY 2025-26 to FY 2029-30 for Bhusawal Unit 6

Source	FY 2025-26 as per actuals			For Balance Control Period					
						Landed Cost (Rs./MT)			
	GCV (ARB) (kCal/kg	Qty (MMT)	Landed Cost (Rs./MT)	GCV (ARB) (kCal/kg)	Qty (MMT)	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Total Raw coal	**3202**	**2.96**	**4,527**	**3,204**	**3.36**	**4,637**	**4,776**	**4,920**	**5,067**
Total Raw coal with transit loss of 0.8%						**4,675**	**4,815**	**4,959**	**5,108**
Imported Coal	**4682**	**0.12**	**11,214**		-	-	-	-	-
Total (Qty) |Wtd. Average	**3,260**	**3.08**	**4,792**		**3.36**	**4,675**	**4,815**	**4,959**	**5,108**
Add: Coal handling charges #			34.80			**35.85**	**36.92**	**38.03**	**39.17**
Total Coal price			**4,827**			**4,710**	**4,852**	**4,997**	**5,147**

1.5.1.3 Considering the y-o-y escalation of 3% on prices of coal and secondary oil, the prices of coal and secondary oil for MYT Control period FY 2025-26 to FY 2029-30 considered.

1.5.2 Installation of Emission control system (FGD and SCR system) and its relevant cost

1.5.2.1 In accordance with the MoEF&CC Notification dated 7th December 2015 and its subsequent amendments, coal-based thermal power plants are required to comply with revised environmental norms related to emissions of SO_2, NOx, and particulate matter, based on plant capacity and commissioning year.

1.5.2.2 The Maharashtra Pollution Control Board (MPCB) has granted conditional Environmental Clearance to Bhusawal Unit 6, directing the installation of Flue Gas Desulphurisation (FGD) systems to ensure compliance with these emission standards within the stipulated timelines outlined in the MoEF&CC Notification dated 5th September 2022.

1.5.2.3 The FGD and Selective Catalytic Reduction (SCR) systems were planned to be commissioned during FY 2026-27, in line with the regulatory requirements.

1.5.2.4 As per the Environment (Protection) Fourth Amendment Rules, 2025 notified on 11.07.2025, Bhusawal Unit 6 fall under Category C as categorised in the notification. Further, Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E), dated the 30th August 1990 and the timeline for ensuring compliance by the existing Category C Thermal Power Plants of stack height criteria by the 31st December 2029. As per the aforesaid amendment, the operation of the Flue Gas Desulphurisation (FGD) is not mandatory for Bhusawal Unit 6 until such time as the prescribed norms are being met. Subsequently, CEA had conducted a meeting with various generating companies to review status of implementation of FGD installations at power stations especially under Category C. In line with the guidelines issued through MoM dated 25.07.2025 for the said meeting, MSPGCL has approached its beneficiary Discom for selection of the options out of "full commissioning & operation of FGD with incurrence of CAPEX as well as

OPEX " OR "halt commissioning of FGD and only bear incurred CAPEX till date " . Considering the substantial tariff impact on account of operations of FGD, MSPGCL is presently expecting a positive response to halt FGD installation bearing "till date CAPEX" . Accordingly, MSPGCL is considering impact of only CAPEX for FGD incurred till date for tariff purpose.

1.5.2.5 MSPGCL has also taken up the matter with FGD vendor for assessment of possibility of alternate usage of the presently installed FGD equipments at Bhusawal Unit # 6 at MSPGCL's other stations or any other usage suitable to the FGD vendor. Such alternate usage of any of the installed FGD equipment will lead to reduction in asset value for Bhusawal # 6, ultimately resulting in corresponding reduction in fixed cost claims by MSPGCL. Thus, in case of any deviation in Capex position at a later stage, MSPGCL will submit the differential claim during the truing-up process for the concerned period and pass on the benefit to the end use customer, through beneficiary MSEDCL.

1.5.2.6 For SCR system, in absence of any such guidelines, MSPGCL is assuming complete commissioning of the SCR system by end of Sept'2026 and subsequent regular operations. However, the Petitioner shall operate the facility optimally to comply with MoEFCC and MPCB norms for emission by closely monitoring the chimney parameters and judiciously utilising the system, thereby avoiding an unnecessary burden of reagent costs.

1.5.3 Operational Performance and norms considered for MYT Control Period

1.5.3.1 In accordance with MERC (MYT) Regulations, 2024, the Petitioner has considered key operational norms for Bhusawal Unit 6 for the 5th MYT Control Period as under:

a) **Availability & PLF:** Both target availability and PLF have been considered at 85%, based on the Fuel Utilisation plan submitted.

b) **Gross Station Heat Rate (GSHR):** Although the normative GSHR is 2230 kCal/kWh, the Petitioner has considered a lower GSHR of 2139.05 kCal/kWh based on the approved design heat rate in MYT Order (187 of 2024). Revision of GSHR based on actual performance is requested during the current/next MYT period by the Petitioner.

c) **Auxiliary Energy Consumption (AEC):** AEC has been considered at 5.75% until commissioning of SCR Systems and 5.95% post-commissioning, as per Regulation 47.13 and 47.18 of MERC (MYT) Regulations 2024. However, for FY 2026-27 in which SCR is likely to be commissioned, additional AEC has been considered as half of the additional AEC, i.e. 0.10%. Hence, for FY 2026-27, total AEC considered as 5.85%.

d) **Secondary Fuel Oil Consumption (**SFOC)**:** SFOC has been considered at 0.50 ml/kWh, in accordance with Regulation 47.11 of MERC (MYT) Regulations 2024.

e) **Transit and Handling Loss:** A normative transit loss of 0.80% has been considered as Bhusawal Unit 6 is a non-pit head station, in line with Regulation 47.20 of MERC (MYT) Regulations 2024.

1.5.4 Energy charges for 5th MYT Control Period FY 2025-26 to FY 2029-30

1.5.4.1 For the purpose of determination of Tariff for FY 2025-26 to FY 2029-30, MSPGCL has worked out energy charges as per the MERC (MYT) Regulations 2024. The GCV and price of coal and secondary oil fuel has been considered as per Fuel Utilisation Plan submitted in this Petition.

1.5.5 Fixed charges for 5th MYT Control Period FY 2025-26 to FY 2029-30

1.5.5.1 For the purpose of calculation of fixed charges, capital cost as on CoD and additional capitalisation projected upto cut-off date and beyond cut-off date for the 5th MYT Control Period FY 2025-26 to FY 2029-30 has been considered as shown below:

Table 8: Additional capitalisation projection for 5th MYT Control period

Particulars	22-02-2025 to 31-03-2025	2025-26	2026-27	2027-28	2028-29	2029-30
Additional capitalisation upto cut off date	23.68	238.02	731.17	137.01		
Additional capitalisation Post cut off date					18.75	25.00
Total additional capitalisation	**23.68**	**238.02**	**731.17**	**137.01**	**18.75**	**25.00**

1.5.5.2 The parameters for fixed charges have been worked out in line with relevant provisions of MERC (MYT) Regulations 2024, in the following manner:

i) **Capital Cost & Additional Capitalisation**: The capital cost as on CoD of Rs.5,812.38 Crore and additional capitalisation as shown above is considered for the projection of fixed charges for 5th MYT Control Period.

j) **O&M expenses** – Normative O&M expenses have been calculated as per Regulation 48.2 of MERC (MYT) Regulations, 2024. Impact of pay revision has been estimated capacity wise based on the impact of pay revision estimated at MSPGCL level in MYT Petition. Impact of wage revision is excluded and will be claimed at the time of True-Up of respective years. CSR expenses, as mandated in the Environmental Clearance, will also be claimed during the respective years' True-Up.

k) **Depreciation** - Computed using the straight-line method on opening GFA of respective years.

l) **Interest on Loan**: Based on the normative average loan and weighted average interest rate, normative interest on loan is considered. Finance charges will be claimed at the time of True-Up.

m) **Interest on Working Capital (IoWC)**: Calculated as per Regulation 32.1, considering the normative components and applying an IoWC rate of 10.5% (SBI MCLR + 150 bps).

n) **Return on Equity**: ROE for Bhusawal Unit 6 has projected at 15.50% as per Regulation 29.2 of MERC (MYT) Regulations, 2024.

o) **Income Tax**: No income tax is proposed as no tax was paid in preceding years.

p) **Non-Tariff Income (NTI)**: NTI projected as per income listed under NTI in accordance with the Regulation 46.2 of MERC (MYT) Regulations 2024.

1.5.6 Annual fixed charges and Energy Charges for 5th MYT Control Period

1.5.6.1 Based on the capitalisation and relevant provisions of MERC (MYT) Regulations 2024, Annual fixed charges and Energy Charges of Bhusawal Unit 6 is projected as under:

Table 9: ARR and AFC of Bhusawal Unit 6 for FY 2025-26 to FY 2029-30 (Rs. Crore)

Particulars	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
	Normative	Actual	Projection			
O&M Charges $	168.48	168.48	175.79	183.44	191.38	199.66
Additional O&M Charges - ECS	-	-	0.48	1.00	1.05	1.09
Water expenses	45.51	45.51	50.06	63.30	137.44	228.22
Depreciation	306.29	306.29	326.74	345.05	348.34	348.21
Interest on Loan	455.36	455.36	461.64	462.28	435.51	404.94
Interest on WC #	61.87	65.53	68.47	71.39	73.93	76.45
Interest on WC - ECS	-	-	0.05	0.06	0.06	0.06
Other expenses	39.69	39.69	43.66	48.03	52.83	58.11
Flexible Operation - training expenses	0.06	0.06	0.28	0.28	0.28	0.22
Ash disposal expenses	-	-	-	-	-	-
Return on Equity	137.41	137.41	152.44	165.89	168.28	168.89
Less: Non-Tariff Income	1.06	1.06	1.11	1.17	1.23	1.29
Total AFC	**1,213.60**	**1,217.26**	**1,278.49**	**1,339.56**	**1,407.85**	**1,484.58**
Fuel Cost #	1,398.96	1,535.14	1,599.20	1,651.68	1,696.59	1,747.48
Fuel Cost - ECS	-	-	0.02	0.03	0.03	0.03
Total ARR	**2,612.56**	**2,752.40**	**2,877.70**	**2,991.27**	**3,104.47**	**3,232.10**

Note:

normative Fuel cost as per operational parameters have been computed and corresponding impact on IoWC has been calculated under normative column for FY 2025-26 in above table.

$ Actual O&M expenses as per audited accounts are not available at this stage, hence considered as per normative.

Table 10: Tariff of Bhusawal Unit 6 for FY 2025-26 to FY 2029-30 (Rs. Crore)

Particulars	UoM	Formula	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
			Normative	Actual (Un-audited)	Projection			
Total Annual Fixed Charges	Rs. Crore	a	1,213.60	1,217.26	1,278.49	1,339.56	1,407.85	1,484.58
Working of Normative Energy Charge Rate (Rs. kWh)								
Total Normative Net Generation (excluding additional aux towards ECS)	MU	b	3,907.79	3,853.97	4,631.78	4,644.47	4,631.78	4,631.78
Total Net Generation (including additional aux towards ECS)	MU	c	3,907.79	3,853.97	4,626.87	4,634.62	4,621.96	4,621.96
Total Fuel Cost (excluding reagent cost)	Rs. Crore	d	1,398.96	1,535.14	1,599.20	1,651.68	1,696.59	1,747.48
Reagent cost	Rs. Crore	e	-	-	0.02	0.03	0.03	0.03
Total Fuel Cost (including reagent cost)	**Rs. Crore**	**f=d+e**	**1,398.96**	**1,535.14**	**1,599.21**	**1,651.72**	**1,696.62**	**1,747.52**
Energy Charge Rate (excluding reagent cost)	**Rs.kWh**	**g=d/b*10**	**3.580**	**3.983**	**3.453**	**3.556**	**3.663**	**3.773**
Energy Charge Rate (Including reagent cost)	**Rs.kWh**	**h=f/c*10**	**3.580**	**3.983**	**3.456**	**3.564**	**3.671**	**3.781**
Impact of reagent cost	**Rs.kWh**	**i=g-f**	**-**	**-**	**0.004**	**0.008**	**0.008**	**0.008**

1.5.6.2 The detailed computation of tariff, as summarised above, is presented in the prescribed tariff formats enclosed with this Petition as **Annexure-1**.

1.6 Prayers

1.6.1.1 The Petitioner respectfully prays the Hon'ble Commission to:

i. Admit this Petition;

ii. Allow Petitioner to submit additional information as may be required by the Hon'ble Commission;

iii. Grant an expeditious hearing of this Petition;

iv. To allow construction period of 55 months (considering 13 months extension on account of Covid-19 as force majeure) and accordingly allow IDC as part of capital cost.

v. To approve the capital cost as on CoD of Bhusawal Unit 6 considering construction period of 55 months.

vi. Consider the submission made regarding halting commissioning of FGD system, in view of CEA MoM dated 25.07.2025 for Category C power stations, with claiming only till date incurred "capex" for MYT tariff purpose.

vii. Approve the tariff of Bhusawal Unit 6 for sale of power to MSEDCL for FY 2024-25 and Tariff for 5th MYT Control Period FY 2025-26 to FY 2029-30;

viii. Approve the provisional True Up for FY 2024-25 based on the tariff approved for FY 2024-25 in response to the present Petition;

ix. Condone any error/omission in the filing of the petition and to give opportunity to rectify the same;

x. Permit the Petitioner to make further submissions, addition and alteration to this Petition as may be necessary from time to time;

xi. Pass any such other order/s and or direction/s, which the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

2 Facts of the Case

2.1.1.1 Maharashtra State Power Generation Company Limited (hereinafter referred to as MSPGCL or Petitioner) is a Government Company within the meaning of the Companies Act, 1956. Further, it is a “Generating Company” as defined under Section 2(28) of the Electricity Act, 2003, having its registered office at “Prakashgad”, Plot No. G-9, Bandra (East), Mumbai-400051.

2.1.1.2 MSPGCL is operating its thermal and hydro generating stations under regulatory regime wherein the tariff of the stations is approved by the Hon’ble Maharashtra Electricity Regulatory Commission (MERC). MSPGCL has an installed capacity of 13880.55 MW which comprises of Thermal (nearly 74%, i.e. 10200 MW) and gas based generating station at Uran, having an installed capacity of 672 MW. In addition to the above, there are 25 hydel projects, having an installed capacity of 2580.2 MW and 428.35 MW of Solar Projects. The Petitioner has been mainly supplying power to the distribution licensee, Maharashtra state Electricity Distribution Company Ltd.

2.1.1.3 The Hon’ble Commission has been notifying the Tariff Regulations from time to time and the same are considered for the purpose of approval of generation tariff of the stations.

2.1.1.4 The Respondent, Maharashtra State Electricity Distribution Company Ltd (MSEDCL) is a distribution licensee, supplying electricity to consumers under Section 14 of the Electricity Act, 2003. The Petitioner has signed Power Purchase Agreement (PPA) with MSEDCL on 1st April 2009 for supply of power to MSEDCL and subsequently signed addendum to PPA for supply of power from Bhusawal unit (1 x 660 MW) vide addendum dated 24th December 2010. The said addendum to PPA is enclosed as Annexure-2A

2.1.1.5 In its endeavour to increase the power generating capacity in the state of Maharashtra, the Petitioner has successfully developed new super critical unit at, Bhusawal (Unit 6) with capacity of 660 MW. The petitioner respectfully submits that the Hon’ble Commission, vide Order dated 1st August, 2018 in Case No. 154 of 2018 allowed MSPGCL to install 1x660 MW as replacement project at Bhusawal.

2.1.1.6 The Regulation 39.5 of Maharashtra Electricity Regulatory Commission (Multi Year tariff) Regulation, 2019 (herein after referred as “MERC (MYT) Regulations, 2019”) provides for determination of provisional tariff. The excerpt of the Regulation is reproduced as under:

> *“The Generating Company shall file the Petition for determination of provisional Tariff for new Generating Station, at least two months prior*

to the anticipated date of commercial operation of Generating Unit or Stage or Generating Station as a whole, as the case may be."

2.1.1.7 Initially, considering the expected COD on 30.04.2023, as a part of MTR Petition (Case No.227 of 2022), the Petitioner had submitted for approval of provisional tariff of Bhusawal unit 6. However, there was no firm coal arrangement at that point in time, the Hon'ble Commission did not find prudent to approve ECR and directed to file a separate Petition for approval of provisional tariff of Bhusawal Unit 6 after incurring atleast 75% of the estimated capital cost and in compliance to the provisions of the Regulations.

2.1.1.8 In view of above directives of the Hon'ble Commission, considering the revised anticipated COD on 01.03.2024 and considering actual incurred capital expenditure of Rs.4839.28 Crore which was 76.19% of expected capital expenditure of Rs.6350.99 Crore of Bhusawal Unit 6, the Petitioner had submitted the Petition for determination and approval of provisional tariff on 08.12.2023.

2.1.1.9 Further, as a part of replies submitted by the Petitioner to the preliminary queries raised by the Hon'ble Commission, the Petitioner had submitted the revised anticipated COD on 31.01.2025 and submitted revised estimated completion cost of Rs.6862.88 Crore based on the actual expenses incurred till 30.08.2024 along with reason for time-overrun, cost overrun and IDC calculation.

2.1.1.10 While approving the provisional tariff, the Hon'ble Commission stated that it will carry out the detailed scrutiny of actual IDC and reasons of delay while approving the Final Capital Cost of the Project after the COD of the Project and directed to submit the complete details of time-overrun along with necessary documentary evidence at the time of approval of Final Capital Cost after the COD of the Project.

2.1.1.11 Further, while approving the provisional tariff, the Hon'ble Commission has not considered the Capital Cost of FGD and SCR systems, since it is not envisioned to be commissioned along with COD of Unit 6 in the 4th MYT Control Period (i.e. upto 31.03.2025). In the provisional tariff Order (Case No. 236 of 2023), the Hon'ble Commission also directed the Petitioner to submit the separate Petition for final approval of actual Capital Cost once the audited Capital Cost of the Project is available as on COD of the Unit.

2.1.1.12 Further, in the MYT Petition for determination of tariff for 5th MYT period (FY 2025-26 to FY 2029-30) for all the units of the Petitioner, the Petitioner has also submitted for approval of provisional tariff of Bhusawal Unit 6 for the 5th MYT Control period, considering anticipated CoD on 31.01.2025. Based on the submission in the said MYT Petition, the Hon'ble Commission has approved the tariff (fixed and variable) for 5th MYT Control period. However, the Hon'ble Commission has not considered the impact of FGD in the MYT Order in either AFC or the Energy Charges, as the same shall be dealt in Tariff to be determined after the COD of the Unit.

3 Submissions

3.1 Applicable Tariff Regulations

3.1.1.1 The Hon'ble Commission notified MERC (MYT) Regulations 2019 on 01.08.2019 which shall be applicable to existing and future Generation companies, Transmission licensee, Distribution licensees, Maharashtra State Load Despatch Centre (MSLDC) for determination of Aggregate Revenue Requirement (ARR) and tariff for the period from 01.04.2020 to 31.03.2025.

3.1.1.2 Subsequently, the Hon'ble Commission notified MERC (MYT) Regulations 2024 on 19.08.2024 which shall be applicable to existing and future Generation companies, Transmission licensee, Distribution licensees, Maharashtra State Load Despatch Centre (MSLDC) for determination of Aggregate Revenue Requirement (ARR) and tariff for the period from 01.04.2025 to 31.03.2030.

3.1.1.3 The actual COD of Bhusawal Unit 6 is achieved on 22.02.2025 which fall under the applicable Control Period of MERC (MYT) Regulations 2019. Hence, the approval of capital cost, tariff determination and provisional true up for FY 2024-25 (Feb-2025 and March-2025) is submitted in accordance with the provisions of MERC (MYT) Regulations, 2019. Further, the Petitioner has submitted for the determination and approval of tariff for MYT Control period FY 2025-26 to FY 2029-30 as per the provisions of MERC (MYT) Regulations 2024.

3.1.1.4 The said MYT Regulations have been notified under powers conferred to the Hon'ble Commission under Section 61 of the Electricity Act, 2003. Further, Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by a generating company. The Hon'ble Commission is vested with the jurisdiction to regulate the tariff of Generating Companies owned or controlled by a State Government and other Generating Companies as envisaged under Section 86(1)(a) & (b) of Electricity Act, 2003.

3.1.1.5 As per Regulation 39.9 of MERC (MYT) Regulations 2024, Generating company is expected to file the Petition for determination of final Tariff for new Generating Station within six months from the date of commercial operation of Generating Unit.

3.2 Scope of this Petition

3.2.1.1 The Hon'ble Commission has approved provisional tariff of Bhusawal Unit 6 for MYT Control period FY 2025-26 to FY 2029-30. However, based on revision in capital cost and likely changes in the parameters of the proposed coal to be used for Bhusawal Unit 6 post issuance of MYT Order (Case No. 187 of 2024), the present petition is being filed by MSPGCL covering the following elements:

a. Seeking approval of final capital cost of Bhusawal Unit 6 as on COD;

b. Determination and approval of Tariff for FY 2024-25 based on the final capital cost as on actual CoD of the unit and accordingly, provisional True Up for FY 2024-25.
c. Rolling Capital Investment Plan for the Control Period FY 2025-26 to FY 2029-30 as per (Approval of Capital Investment Schemes) Regulations, 2022.
d. Fuel Utilisation Plan for the control period from 01.04.2025 to 31.03.2030 as per MERC (MYT) Regulations, 2024
e. Aggregate Revenue Requirement (ARR) and tariff for FY 2025-26 to FY 2029-30 based on revised capital cost, principles provided in the MERC (MYT) Regulations 2024 and appropriate assumptions detailed in this petition.

3.2.1.2 The certificate from Auditor's certifying final capital cost as on the date of CoD of Bhusawal Unit 6 have been enclosed with this petition for the consideration of the Hon'ble Commission as **Annexure-2B**.

3.3 Other Petitions which may have direct bearing on this Petition:

3.3.1.1 The Petitioner has already filed following Petitions before the Hon'ble Commission which have direct or indirect bearing on this Petition.

- Petition filed for determination of tariff of Solar PV power plant of 25 MW of Sakri II on 12.06.2024 in Case No.87/DT/2024.
- Petition filed for review of MYT Order (Case No. 187 of 2024) on 09.05.2025 with Reference No. 254/2025, Diary No. 157/2025 & Petition No. 96/RC/2025.
- Petition (Case No. 186/MP/2025 dated 05.08.2025) filed for allowing MSPGCL to claim supplementary bills raised by MSLDC under FAC mechanism and direct MSEDCL to make the payment towards such supplementary bills.

3.3.1.2 The Petitioner respectfully submits that several cases pertaining to the Civil Construction Circle ("CCC") are presently sub-judice, involving an aggregate financial implication of ~Rs.8.24 Crore. A detailed list of such matters is annexed hereto as **Annexure-3**. The Petitioner further submits that the outcome of the aforesaid proceedings will have a direct bearing on the determination of the capital cost of Bhusawal Unit 6. In view thereof, the Petitioner prays that the Hon'ble Commission be pleased to permit an appropriate adjustment in the approved capital cost, as and when the decisions in the said cases are rendered by the competent forum. The Petitioner further submits that, as on the date of filing of the present Petition, no any other arbitration proceedings or any other dispute resolution proceedings are pending which may have a bearing on the capital cost of Bhusawal Unit 6. Hence, no cost has been considered on such account under capital cost as on COD and additional capitalisation proposed at this stage.

4 Brief overview of the Bhusawal unit 6

4.1 Background

4.1.1.1 The Petitioner respectfully submits that the Hon'ble Commission, vide Order dated 01.08.2018 in Case No. 154 of 2018 allowed MSPGCL to install 1x660 MW as replacement project at Bhusawal.

4.1.1.2 The Petitioner's Board vide BR No 2009/583 accorded administrative approval for 1 x 660 MW replacement unit at Bhusawal through International Competitive Bidding (ICB). The Government of Maharashtra (GoM) vide GR No. Prakalpa-2010/PR.KR 3/Urja dated 05.10.2010 has approved for installation of 1 x 660 MW coal based supercritical unit at Bhusawal, district Jalgaon. After approval from GoM, MSPGCL has prepared DPR for Bhusawal Unit 6. According to DPR, estimated capital cost was Rs.4548 Crore (BR 2011/998). The proposal for the placement of Order on M/s BHEL for implementation of 1 x 660 MW Bhusawal Unit 6 (vide BR No. 2017/2417) was approved by the Board. Accordingly, LoA were issued on 17.01.2018 for amount of Rs. 2826.97 Crore. MSPGCL issued Notice to Proceed (NTP) to M/s BHEL on 06.08.2018 in line with MERC Order (Case 154 of 2018) dated 01.08.2018 to comply with conditions of the Order. Subsequently, the Board approved appended scope to meet the revised stack emission norms issued by MoEFCC vide notification dated 07.12.2015 and additional investment thereof to the tune of Rs.685 Crore (BR No. 2018/2835). Zero date of the contract was revised as 31.12.2018. The relevant BR of MSPGCL and GoM's GR is attached as **Annexure-4.**

4.1.1.3 The Petitioner further submits that, project scope has undergone the changes due to works other than BTG + BOP which was not envisaged at the time of DPR preparation, revised stack emission norms which resulted in appending scope to incorporate FGD, SCR, ESP modification etc, change in tax regime (Pre GST to GST), and price variation as per tender condition and effect of these on IDC. The revised estimated capital cost was Rs. 6350.99 Crore and the same was approved by the Board of MSPGCL vide BR No. 2023/3784 dated 27.10.2023 (attached as **Annexure-5 & 5A**).

4.1.1.4 The Petitioner has constructed (1x660 MW) (Unit- VI) Super-Critical Technology Bhusawal Coal Based TPP in an area of 115.93 Ha at Village Pimpri-Sekam, Taluka Bhusawal, District Jalgaon, Maharashtra.

4.2 Fuel Availability

4.2.1.1 The coal requirement for Bhusawal Unit 6 is estimated at 3.24 MMTPA, considering weighted average Gross Calorific Value (GCV) of approximately 3400 kCal/kg (ARB), derived from the actual coal received during FY 2024–25 from the proposed supply sources. The Petitioner submit that the coal requirement of Bhusawal Unit 6 is proposed to be met as per following fuel sources.

S. No.	**Type of coal**	**Collieries/mines**	**Qty of coal (MMTPA)**
1.	Notified coal	Kolarpimpri	0.850
2.	Existing cost plus coal sources	DHUPTALLA (SASTI UG TO OC)	0.867
3.		GOURI DEEP OC MINE	
4.		DURGAPUR OC MINE	
5.		BELLORA NAIGAON DEEP OC MINE	
6.		KOLGAON OC MINE	
7.		UKANI DEEP OC MINE	
8.		KOLAR PIMPRI EXTENSION OC MINE	
9.		JUNAD OC MINE	
10.		NEW MAJRI UG-OC CONVRSION MINE	
11.	Mine specific coal	Ballarpur, Dumri (Bhanegaon, Gondegaon, Singori), Ghuggus, Gouri Deep, HLC, Pandharpauni, Umrer and Wani.	1.146
12.	**Total**		**2.86**

4.3 Water Availability

4.3.1.1 In a conventional fossil fuel-fired Thermal Power Station, water is used to meet the following basic requirements:

a) To meet cooling requirement for Steam Condenser which acts as a heat sink for the thermodynamic cycle and other auxiliary cooling such as, Bearing / Lube Oil Coolers, Compressors, Generator Stator etc.
b) To meet the heat cycle make-up and other process requirements.
c) For miscellaneous services viz.

i. Fire fighting
ii. General services viz. A/C and ventilation, floor washing etc.
iii. Sealing and cooling water for equipment of Ash Handling and Coal Handling System.
iv. Dust extraction and dust suppression in coal yard
v. Potable use in the plant and housing complex
vi. Transport media for ash in case of wet disposal of ash
vii. Horticulture and forestation
viii. In FGD system (for making lime solution)/gypsum conveying

4.3.1.2 For meeting the requirements of power cycle make up, cooling circuit and for potable use, water from Ozerkheda Reservoir (Hatnur dam water will be pumped upto Ozerkheda) shall be utilized.

4.3.1.3 The water coming from Ozerkheda Reservoir shall be stored in a twin chamber Raw Water Reservoir. One Day storage of Raw Water is planned in Raw Water Reservoir for the proposed 1x660 MW TPS. A raw water pump house shall be constructed for raw water supply for treatment and subsequent uses. Initially about 19.5 MM3/Annum of water shall be required. This is based on the consideration of cycle of concentration of 5 in the cooling water system and utilization of Cooling Tower blow down as Service Water Requirement, Ash Handling Plant, Coal Handling Plant, Horticultural etc.

4.3.1.4 After few years, it is expected that some of the ash water of Bottom Ash system will be recovered from the Ash Pond and shall be recycled to the Ash Handling Plant. In such a situation the raw water requirement is expected to reduce. The total detailed working of the estimation of water requirement for Bhusawal Unit 6 is given in Annexure VI of DPR attached as **Annexure-6** to this Petition

4.3.1.5 Accordingly, initially water requirement for Bhusawal Unit 6 (1 X 660 MW) of 19.5 MM^3/annum shall be required. The total requirement of BTPS is proposed to be met initially for the quantum of water of 22.33 MM3/annum by Sudgaon Bandhara through Hartnur Reservoir, 27.45 MM3/annum by Lift and Ozarkheda dam of the Varangaon and from FY 2028-29 onwards 80 MLD of water by Jalgaon sewage treatment plant tertiary treated RO water.

4.4 Power Evacuation Arrangements

4.4.1.1 Final permission for grid connectivity to Bhusawal Unit 6 (1 x 660 MW) was granted to Intra state grid at 400 kV level of MSETCL's 400/220 kV Bhusawal-II sub-station vide letter No. MSETCL/CO/STU/Thermal/No.8856 dated 27.12.2023.

4.5 Pollution & Environment Clearance

4.5.1.1 Ministry of Environment and Forests, Government of India had given environment clearance to the Bhusawal Unit 6 Project (1 X 660 MW) for the period up to five years, i.e. upto Nov 2017 vide letter no. J 13012/75/2010-IA. II (T) dated 27.11.2012 and subsequently validity was extended vide Letter dated 30.05.2017 and further extended the validity vide letter dated 14.01.2020.

4.5.1.2 Maharashtra Pollution Control Board (MPCB) had given "Consent to Operate with Amalgamation", as the this consent is applicable for Bhusawal Unit 4-5 (2 x 500 MW) and Bhusawal Unit 6 (1 x 660 MW) and consent renewal is granted for a period up 31.12.2025 vide letter no. RED/L.S.I (R48) No:- Format1.0/CAC/UAN No. MPCB CONSENT-0000224737/CR/2506001082 dated 11.06.2025.

4.5.1.3 MPCB has given aforementioned consent subject to following condition related to installation of FGD system:

"21. PP shall install Flue Gas De-sulphurisation (FGD) System & shall comply with the emission norms as per the timeline prescribed in the MoEF&CC Notification dated 05.09.2022 and amendment thereafter. "

4.5.1.4 In view of revised environmental norms of Ministry of Environment, Forest and Climate Change (MoEF&CC) (reduction of SOx level less than 100 mg/Nm3 for units having capacity 500 MW and above), MSPGCL had decided to install FGD for Bhusawal Unit 6.

4.5.1.5 However, pursuant to the MoEF&CC Gazette Notification No. G.S.R. 465(E) dated 11.07.2025, prescribing the revised SO_2 emission norms, Bhusawal Unit 6 is classified under Category C. Accordingly, in terms of the provisions of the aforesaid notification, installation of a Flue Gas Desulphurization (FGD) system is not mandatory for Bhusawal Unit 6.

4.6 Power Purchase Agreement

4.6.1.1 The Petitioner has signed Power Purchase Agreement (PPA) with MSEDCL on 1st April 2009 for supply of power to MSEDCL and subsequently signed addendum to PPA for supply of power from Bhusawal unit 6 (1 x 660 MW) vide addendum dated 24th December 2010.

4.7 Input for this Petition

4.7.1.1 Based on above & on the basis of auditor's certificate for final capital cost of Bhusawal Unit 6 as on COD, the details for the determination of capital cost and Tariff are given as per the formats prescribed by the Hon'ble Commission. The formats for tariff determination for Bhusawal Unit 6 are enclosed as **Annexure-1** along with this petition.

5 Capital Cost Determination of Bhusawal Unit 6

5.1 Base Capital cost of the Project

5.1.1.1 MSPGCL submits that the base capital cost of the project should be based on cost indicated at the time of ordering of equipment along with price variation/ escalations that may occur during the construction period as per the contractual agreements. The IDC shall then be considered considering the aforesaid hard cost of the project over the scheduled completion period as per actual prevailing interest rates.

5.1.1.2 MSPGCL's board vide BR No 2009/583 accorded administrative approval for 1x 660 MW replacement unit at Bhusawal through International Competitive Bidding (ICB). The Government of Maharashtra (GoM) vide GR No. Prakalpa-2010/PR.KR 3/Urja dated 05.10.2010 has approved for installation of 1 x 660 MW coal based supercritical unit at Bhusawal, district Jalgaon. After approval from GoM, MSPGCL has prepared DPR for Bhusawal Unit 6. According to DPR, estimated capital cost is Rs.4548 Crore (BR 2011/998). The proposal for the placement of Order on M/s BHEL for implementation of 1x660 MW Bhusawal Unit 6 (vide BR No. 2017/2417) was approved by the Board. Accordingly, LoA were issued on 17.01.2018 for amount of Rs. 2826.97 Crore. MSPGCL issued Notice to Proceed (NTP) to M/s BHEL on 06.08.2018 in line with MERC Order (Case 154 of 2018) dated 01.08.2018 to comply with conditions of the Order. Subsequently, the Board approved appended scope to meet the revised stack emission norms issued by MoEFCC vide notification dated 07.12.2015 and additional investment thereof to the tune of Rs.680.82 Crore (BR No. 2018/2835). Zero date of the contract was revised as 31.12.2018. The relevant BR of MSPGCL and GoM's GR is attached as **Annexure-7**.

5.1.1.3 The comparison of capital cost as per approved DPR and revised estimated capital cost approved by the MSPGCL's Board vide BR No. 2023/3784 dated 12.10.2023 is tabulated as under:

Table 11: Capital cost of Bhusawal Unit 6 as per DPR and Revised cost as approved by the Board (Rs. Crore)

Sr. No.	Cost Head	Cost (pre-GST) as per DPR dated Feb-2011 (Rs. Crore)	Estimated total Project cost (Post GST) approved as per BR dtd. 12.10.2023 (Rs. Crore)
1	LOA with Appending Scope of Pollution Control Equipment & taxes and duties.	3326	3758.19
2	Price Variation Cost	0	751.64

Sr. No.	Cost Head	Cost (pre-GST) as per DPR dated Feb-2011 (Rs. Crore)	Estimated total Project cost (Post GST) approved as per BR dtd. 12.10.2023 (Rs. Crore)
3	Other works listed in DPR & not part of EPC Contract	466	175.26
4	**Total for Plant & Equipment (1+2+3)**	**3792**	**4685.09**
5	Establishment expenses	0	263.63
6	Pre-Operative expenses	44	0
7A	Contingency expenses	0	234.25
7B	Consultancy fees, Insurance, FGD & SCR Spares	0	57.94
8	Works other than BTG+ BOP not envisaged at the time of DPR	0	364.56
9	**Total Hard Cost (4+5+6+7A+7B+8)**	**3836**	**5605.47**
10	IDC estimated	712	745.52
11	**Total (8+9)**	**4548**	**6350.99**

5.1.1.4 MSPGCL respectfully submits that, against the approved amount of Rs. 466 Crore under the head “Other works listed in DPR & not part of EPC Contract” and "Other than BTG, BOP and Civil Works" in the original project scope, the revised cost for the said component has been estimated at Rs. 175.27 Crore and Rs. 364.56 Crore, aggregating to Rs. 539.83 Crore, which has been duly approved by the Board of MSPGCL vide Board Resolution No. 2023/3784 dated 12.10.2023.

5.1.1.5 The item-wise breakup of such expenditure of Rs.364.56 Crore along with the justification of the necessity of such works and explanation on why the same were not envisaged in the Original DPR are provided in the table below.

Sr.no.	Others than BTG BOP Civil works	Original scope	Revised scope
1	Soil Investigation, Study & Survey	16.00	3.85
2	Other land for access corridor, Ash pipe lines, water pipe lines etc	15.00	-
3	Railways (13 KM) @ Rs2.75 CR/KM	36.00	-
4	ROB	16.00	-
5	Road outside boundary (4 KM)	5.00	2.02
6	Boundary wall	2.00	8.50
7	Township & colony	72.00	72.00
8	Construction water supply	2.00	1.16
9	Land Cost (108.07 H)	25.00	32.02
10	CSR	25.00	17.22
11	Switch Yard	160.00	-
12	Construction Power supply	2.00	21.50
13	Locomotives	10.00	17.00
14	Bull dozers	3.00	-
	Total	389.00	175.27
	Tax on Civil Works	35.00	
A	**Total Other than BTG BOP**	**424.00**	**175.27**
	Extra work (10%) of total	42.00	
15	Total Railway siding		128.60
15.1	Railway siding Depository works		73.00
15.2	Railway siding work other than EPC		50.00
15.3	Railway siding work Departmental		5.60
16	Admin building		30.00
17	Ash bund raising		32.00
18	Hospital building		9.00
19	CHP interconnection		60.00
20	RWP Renovation and Modernisation work		35.40
21.1	Other miscellaneous Project related works		38.38
	Fire tenders for new unit , precision lab equipments , scafolding material, bulk and fine chemicals for WTP , Wireless temperature monitoring system for LT switch boards, Over-heads & other expenses for these additional works including Lime stone / ammonia and other re-agents for commissioning trials.		
21.2	Civil works		19.38

Sr.no.	Others than BTG BOP Civil works	Original scope	Revised scope
	Under Pass for bulker Road / concretisation of Road , construction of additional facilities at Major Stores , Sudgaon barrage , other related miscellaneous works		
22	Coal Flow Management system and Suspended Magnet		11.80
B	**Total Revised additional scope**	**466.00**	**364.56**
	Total A+B		**539.83**

5.1.1.6 The revised estimated capital cost was Rs. 6350.99 Crore and the same was approved by the Board of MSPGCL vide BR No. 2023/3784 dated 12.10.2023 (attached as **Annexure-5).**

5.1.1.7 The Petitioner respectfully submits that the originally estimated capital cost of Rs. 6,350.99 Crore comprised of a hard cost component of Rs. 5,605.47 Crore and an Interest During Construction (IDC) component of Rs.745.52 Crore. It is submitted that the IDC was estimated considering the rate of Interest on loan as 12% per annum, as prevailing rate at that point in time. However, rates of long-term loan were reduced when actual loan was drawn. The Petitioner further submits that the cost presented in the DPR and the corresponding Board Note, was indicative in nature, prepared at a stage when no procurement orders had been placed and without factoring in the impact of price variation (PV) or quantity variation.

5.1.1.8 In view of above, the Petitioner submits that the DPR cost cannot be treated as the base cost for the purpose of comparison with actual capital expenditure. It is further submitted that the scope of the project has undergone material changes after the preparation of the DPR, including additional works beyond the originally envisaged BTG and BOP packages. The detailed reasons for increase in cost with respect to original DPR cost for each component as mentioned below:

a) **Revised Stack Emission Norms:** Ministry of Environment, Forest &CC, New Delhi vide Notification S.O.3305 (E) dated 07.12.2015 stipulated revise stack emission norms in respect of thermal power plants which shall be established after 01.01.2017. The stack emission has been revised as 100 mg/Nm³ max for both Sox (Oxides of Sulphar) & Nox (Oxides of Nitrogen) and Suspended Particulate matter (SPM) as 30 mg/Nm³ max. Considering the stringent norms, scope of FGD, SCR & ESP modification has been appended vide amendment to LOA dated 31.12.2018. (BR 2018/2835 05.11.2018). The additional burden due to change in emission law, Change in Worst Coal GCV as well as O&M other requirements is Rs 685 Crore plus 18% GST.

b) **Change in Tax regime:** The tendering process was conducted under the pre-GST tax regime, while the order was placed in the GST regime. During pre-GST regime, considering the bid offer for a basic price of Rs.2504.08 crore, taxes and duties worked out to Rs.322.88 Crore. However, with the introduction of GST and the application of an 18% tax slab on the basic price of Rs.2504.08 crore, there is an increase of Rs.128.72 crore compared to pre-GST taxes and duties (as per BR 2017/2491 dated 07.11.2017).

c) **Applicable price variation on contract price:** It is submitted that price variation was not considered in the original DPR. However, in revised estimated cost, the Petitioner has considered the impact of price variation into account in capital cost. The total amount of price variation of Rs. 751.64 Crore included in total revised estimated capital cost.

d) **Development expenses including overheads, Pre-Operative Expenses and Head office (HO) Cost:** The extended project timeline has led to an increase in administrative costs, including development expenses, overheads, preoperative expenses, and head office (HO) costs.

e) **Interest During Construction and Financing Charges**: Due to an extended project timeline, IDC and financing charges have increased. The original COD was set for June 2022, but initially a 10-month extension, till April 2023, was granted to M/s. BHEL under force majeure conditions caused by the COVID-19 pandemic. M/s BHEL vide letter dated 16.10.2025, requested MSPGCL to review the documentary evidence submitted earlier and requested to allow the extension appropriately. Considering the nature of evidence and based on the review of M/s BHEL submission and GoM and GOI's notification, MSPGCL has granted further 3 months' extension for work completion. In this regard, correspondence between MSPGCL and M/s BHEL is enclosed as Annexure 5A. In view of this, MSPGCL respectfully request the Hon'ble Commission to allow construction period of 55 months (considering 13 months' extension) for Bhusawal unit 6. In the revised estimated cost of DPR, the IDC component is considered upto Oct 2023 and is estimated at Rs.745.52 crore, compared to Rs.712 Crore in the original DPR.

5.1.1.9 These aforesaid changes arose due to compliance with revised stack emission norms, necessitating inclusion of Flue Gas Desulphurisation (FGD) systems, Selective Catalytic Reduction (SCR) systems, Electrostatic Precipitator (ESP) modifications, and other works. Moreover, the transition from the pre-GST to the GST regime and price variations as per tender conditions have also significantly impacted both capital cost and IDC.

5.1.1.10 In light of the foregoing, the Petitioner most respectfully submits that the appropriate benchmark for comparison of actual capital expenditure should be the revised estimated capital cost of Rs. 6,350.99 Crore, as approved by the Board of MSPGCL vide Board Resolution No. 2023/3784 dated 12.10.2023.

5.2 Tendering process followed for award of contract

5.2.1 **Tendering process:**

5.2.1.1 The tender was floated for selection of bidder for combined BTG+BOP scope along with associated Civil work on single point responsibility basis through International Competitive bidding.

5.2.1.2 Following 16 Bidders had purchased the bid document under the international competitive bids invited by MSPGCL:

1. M/s Bharat Heavy Electricals Ltd.
2. Larson and Toubro Ltd and L&T Power
3. BGR Energy System Ltd
4. ALSTOM India Ltd
5. Thermax Ltd
6. Tata Projects Ltd
7. Essar Projects (India) Ltd
8. Unity Infraprojects Ltd
9. Toshiba Corporation
10. Lanco Infratech Ltd
11. Cethar Ltd
12. Alstom Bharat Forge Power Ltd
13. Doosan Power System India Pvt. Ltd
14. Gammon India Ltd
15. Toshiba JSW Turbine & Generator Pvt. Ltd
16. Shapoorji Pallonji & Co. Ltd

5.2.1.3 In response to IFB specification No. DG/BSL U-6/2011/T-1, following four bidders have submitted their offers for Design, Engineering, manufacture, Assembly, Testing at Works, Supply at site, Civil, Structural & Architectural Works and Erection, Testing & Commissioning of Bhusawal Thermal Power station (1 x 660 MW) Unit 6 project on Engineering, Procurement & Construction (EPC) basis:

1. Consortium of M/s ALSTOM India Ltd and M/s Essar Projects India Ltd & Alstom Bharat Forge Power Ltd.
2. M/s Bharat Heavy Electricals Ltd (M/s BHEL).
3. M/s Larson and Toubro Ltd (M/s L&T)
4. Consortium of M/s Toshiba JSW Power Systems Ltd and M/s Doosan Power System India Pvt. Ltd

5.2.1.4 Based on the evaluation, bids of three bidders, viz. M/s BHEL, L&T and Toshiba were Techno-commercially suitable for acceptance. Following is the comparison of quoted price and evaluated price of abovementioned three bidders.

Table 12: comparison of quoted price and evaluated price of three qualified bidders

S.N.	Name of bidders	Quoted Price (Rs. Cr)	Evaluated price (Rs. Cr)	Relative Ranking
1	M/s BHEL	2,784.01	3,271.25	1st
2	M/s Toshiba JSW Power sysetms Ltd	3,079.21	3,854.26	2nd
3	M/s Larsen & Toubro Ltd	3,780.31	4,686.26	3rd

5.2.2 **Reasonability of the quoted/bid price:**

5.2.2.1 The price quoted by M/s BHEL are in response to the ICB tender. The price was 9.6% lower than the second lowest bid. Further, it is evident that expected estimated expenditure /cost for completion of the Bhusawal unit 6 is lower than the administratively approved project cost for implementation.

5.2.2.2 Further, the Petitioner undertook its own due diligence to establish the prudence of capital cost submitted by three bidders. The Petitioner has compared overall project cost of Bhusawal Unit 6 with Koradi (3 x 660 MW), Chandrapur (2 x 500 MW) and along with Projects awarded by other Utilities, as tabulated below:

Table 13: Comparison of overall Project cost of Bhusawal Unit 6 with Projects awarded by other Utilities (Rs. Crore)

Sr. No.	Description	MAHAGENCO Projects			Project by Other Utilities		
		Bhusawal 1x660 MW	Koradi 3x660 MW	C'pur 2x500 MW	Butibori VIPL 2x300 MW	Barh NTPC 2x660 MW	Ennore TNGENCO 1x660 MW
1	L1 Bidder/Contractor	BHEL	L&T & Lanco	BHEL & BGR	R Infra & Shanghai Elec. Corp.	BHEL & BoP Pkgs.	LANCO
2	Project cost incl. IDC	4228	14026	6937	4008	9715.2	3960
3	Cap. in MW	660	1980	1000	600	1320	660
4	Project cost per MW	6.40	7.08	6.937	6.68	7.36	6.00

5.2.2.3 Based on the above comparison of discovered project cost of Bhusawal unit 6 with project awarded by other Utilities, Bhusawal unit 6 discovered project cost found reasonable.

5.2.2.4 Finally, the contract was awarded to L1 bidder, i.e. M/s BHEL for installation of the 1 X 660 MW unit at Bhusawal Thermal Power Station (Unit-6) at Rs.4228.66 Crore to the lowest bidder on 31.12.2018.

5.2.2.5 MSPGCL executed Agreements with M/s BHEL, L1 bidder in this case on 08.11.2019 and the same are provided as **Annexure-8** (Soft copies) The details of bid evaluation report are enclosed in **Annexure-9** (Soft copy).

5.2.2.6 Following is the summary of ordering cost of the Bhusawal Unit 6.

Table 14: Summary of Ordering cost for Bhusawal unit 6 (Rs. Crore)

S. No.	Particulars	Total Cost in INR Crores
1	LOA with Appending Scope of Pollution Control Equipment & GST	3,758.19
2	Price Variation Cost	-
3	Other works listed in DPR & not part of EPC Contract	466.00
4	**Total for Plant & Equipment (1+2+3)**	**4,224.19**
5	Establishment expenses	-
6A	Contingency expenses	-
6B	Consultancy fees, Insurance , FGD & SCR Spares	44.00
7	Works other than BTG+ BOP not envisaged at the time DPR	-
8	**Total Hard Cost (4+5+6A+6B+7)**	**4,268.19**
9	IDC estimated	712.00
10	**Total (8+9)**	**4,980.19**

5.2.2.7 The estimated project cost of Bhusawal (1 X 660 MW) is revised to Rs. 6350.99 Crore. This revision in project cost is due to time overrun. A comparison of the DPR Cost & Ordering cost and revised cost approved by the Board for the Composite 1 X 660 MW of Bhusawal Project is as under:

Table 15: Comparison of capital cost as per DPR, Order cost and revised estimated cost approved by Board of MSPGCL for Bhusawal unit 6 (Rs. Crore)

Sr. No.	Cost Heads	Cost as per DPR & BR dated 22.07.2011	Ordering Cost	Revised estimate as per BR dated 27.10.2023
1	LOA with Appending Scope of Pollution Control Equipment & GST	3,326.00	3,758.19	3,758.19
2	Price Variation Cost			751.64
3	Other works listed in DPR & not part of EPC Contract	466.00	466.00	175.26
4	**Total for Plant & Equipment (1+2+3)**	**3,792.00**	**4,224.19**	**4,685.09**
5	Establishment expenses			263.63
6A	Contingency expenses			234.25
6B	Consultancy fees, Insurance , FGD & SCR Spares	44.00	44.00	57.94
7	Works other than BTG+ BOP not envisaged at the time DPR			364.56
8	**Total Hard Cost (4+5+6A+6B+7)**	**3,836.00**	**4,268.19**	**5,605.47**
9	IDC estimated	712.00	712.00	745.52
10	**Total (8+9)**	**4,548.00**	**4,980.19**	**6,350.99**

5.3 Final capital cost as on COD of Bhusawal Unit 6

5.3.1.1 Regulation 24.1 of MERC MYT Regulations 2019 states the following with respect to determination of capital cost of a generation project.

"24.1 Capital cost for a capital investment Project shall include:

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, as admitted by the Commission after prudence

check;

(b) capitalised initial spares subject to the ceiling rates specified in this Regulation;

(c) expenses incurred by the Licensee on obtaining right of way, as admitted by the Commission after prudence check;

(d) additional capitalisation determined under Regulation 25;

(e) any gain or loss on account of foreign exchange rate variation pertaining to the loan amount availed up to the cut-off date, as admitted by the Commission after prudence check:

Provided that any gain or loss on account of foreign exchange rate variation pertaining to the loan amount availed up to the date of commercial operation shall be adjusted only against the debt component of the capital cost:

Provided further that the capital cost of the assets forming part of the Project but not put to use or not in use, shall be excluded from the capital cost of Generation Project and transmission system:"

5.3.1.2 The project cost capitalized (after considering unrecovered fuel cost) on the Date of Commercial Operation of the Bhusawal Unit 6 is Rs. 5812.38 Crore which comprises of hard cost of Rs. 4690.35 Crore and IDC of Rs. 1122.03 Crore.

5.3.1.3 The Audited Accounts certifying the capital cost as on the date of CoD of Unit 6 are enclosed as **Annexure-2.**

5.3.1.4 The broad cost component of the capital cost capitalized as on the date of Commercial Operation of the Project is summarized as follows:

Table 16: Actual Project Cost elements as on COD

Cost Element	Capital Cost (Rs. Crores)
	As on 22-Feb-2025
Cost of Land & Site Development	31.73
Plant & Equipment (BTG)	3,325.62
Taxes	-
Initial spares	96.11
Construction & Pre- Commissioning Expenses	89.97
Unbilled infirm power	203.13
Other Works	63.85
PV	527.89
CSR	4.58
Overheads	338.24
Consultancy	9.23
Hard Cost	**4,690.35**
Add: IDC	1,122.03
Total Capital cost	**5,812.38**

Cost Element	**Capital Cost (Rs. Crores)**
	As on 22-Feb-2025
Cost of Land & Site Development	31.73
Plant & Equipment (BTG)	3,325.62
Taxes	-
Initial spares	96.11
Construction & Pre- Commissioning Expenses	89.97
Unbilled infirm power	203.13
Other Works	63.85
PV	527.89
CSR	4.58
Overheads	338.24
Consultancy	9.23
Hard Cost	**4,690.35**
Add: IDC	1,122.03
Total Capital cost	**5,812.38**
Note: The Price Variation (PV) of Initial Spares of Rs. 13.06 Cr is included in the total PV of Rs. 527.89 Cr and Initial Spares (Rs. 96.11 Cr) is shown excluding PV.	

5.3.2 **Initial Spares:**

5.3.2.1 It is submitted that the under the breakup of capital cost as on CoD of Rs.5812.38 Crore, initial spares mentioned as Rs.96.11 Crore and the price variation of Rs.13.06 Crore with respect to initial spares is considered and shown under the head of PV of Rs.527.89 Crore. Hence, the actual amount of initial spares (including PV) as on CoD is Rs.109.17 Crore (Rs.96.11 Crore + Rs.13.06 Crore).

5.3.2.2 The Regulation 24.10 of MERC (MYT) Regulations, 2019 specified that the capital cost may include initial spares capitalised as percentage of the plant and machinery cost up to the cut-off date, subject to ceiling norm of 4%, in case of coal based fired generating station. In the present case, the total Initial Spares capitalised upto CoD (Rs.109.17 Cr) and post CoD (up to the Cut-off Date) (Rs.73.78 Cr) worked out to Rs.182.95 Crore. As per the capitalisation as on CoD (Rs.5812.38 Cr) and considering the additional capitalisation upto cut-off date (Rs.1129.87 Cr), total likely amount to be accounted under the head of Plant and Machinery worked out to Rs.6432.50 Crore (Rs.5302.63 Cr as on CoD +Rs.1129.87 Cr additional capitalisation upto cut-off date). In view of this, initial spares capitalised/proposed to be capitalised of Rs.182.95 Cr is 2.84% of the cost of plant and machinery of Bhusawal Unit 6. Therefore, the capitalisation of Initial Spares is well within the ceiling prescribed under Regulation 24.13 of MERC MYT Regulations, 2024 and is fully compliant with the provisions thereof. The working of the same is tabulated below:

Particulars	Capitalisation till CoD	Additional capitalisation upto Cut-off Date	Total Capitalisation upto Cut off date
Land and Rights	31.73	-	31.73
Buildings	-	-	-
Hydraulic Works	33.43	-	33.43
Others and Civil works	444.60	-	444.60
Plant & Machinery	5,302.63	1,129.87	**6,432.50**
Total Project Cost	**5,812.38**	**1,129.87**	**6,942.25**
Initial Spares	109.17	73.78	182.95
Initial Spares % Cost of Plant and Machinery			**2.84%**

5.3.3 **Price variation (PV):**

5.3.3.1 Pursuant to provisions of Clause No. 10, Section - 2A and Clause No. 25, Section - 2B, Volume- I of Bid Specification, the Ex-works supply price less advance paid and Basic Price less advance paid, shall be subjected to the price variation. Price variation shall be paid; if any, for the corresponding period, with base indices submitted in M/s BHEL's offer and as per the formulae given in SCHEDULE-3 of Bid specification. The Price Variation shall be subjected to a ceiling of (+/-) 20% of the contract price. In the Provisional Tariff Order for Bhusawal Unit 6 (Case No. 236 of 2023), while approving the capital cost, the Hon'ble Commission, noted that the submissions made by MSPGCL with respect to the time overrun were not adequately detailed, hence the Hon'ble Commission has allowed the price variation to the extent of 50% of the amount claimed by the Petitioner in the provisional tariff Petition. The Hon'ble Commission further stated that the amount of actual Price Variation shall be examined in detail upon the achievement of the actual Commercial Operation Date (CoD) of the Project.

5.3.3.2 In view of the above, the Petitioner respectfully submits that the Price Variation amounting to Rs.527.89 Crore has been computed in accordance with the relevant provisions of the contractual agreements and the corresponding bid specifications. Following is the breakup of price variation against Plant and equipment and initial spares and detailed package-wise Price Variation computation.

Table 17: Actual price variation as on CoD

Particulars	Price variation (Rs. Crore)
Plant and equipment	514.83
Initial Spares	13.06
Total Price variation	**527.89**

5.3.3.3 Furthermore, a detailed analysis of the delays encountered during the construction of Bhusawal Unit 6 is provided in the 'Delay Analysis Report' enclosed as **Annexure-10**.

5.3.3.4 Considering the foregoing, the Petitioner prays that the Hon'ble Commission may be pleased to allow the actual Price Variation amount, as claimed herein, to be considered under the capital cost of Bhusawal Unit 6.

5.3.4 **Overheads:**

5.3.4.1 In the actual capital cost of Bhusawal unit 6, the amount of Rs.338.24 Crore included towards overheads. In the provisional Tariff Order (Case No. 236 of 2023), the Hon'ble Commission has provisionally limited the admissible overheads to 5% of the approved hard cost (excluding overheads), in line with the norms applied to other generating stations of similar unit sizes, namely, Koradi Units 8, 9 & 10; Chandrapur Units 8 & 9; Bhusawal Units 4 & 5 and Khaperkheda Unit 5. The Hon'ble Commission has further stated that a detailed scrutiny of the overheads, including an assessment of the reasons for the increase in overhead cost, shall be undertaken at the time of final capital cost approval upon achievement of Commercial Operation Date (CoD).

5.3.4.2 The actual overheads incurred on the project amount to Rs. 338.24 Crore, which represents approximately 7.7% of the hard cost (excluding overheads). The Petitioner respectfully submits that limiting the admissible overheads to 5% of the hard cost would not be equitable in the present circumstances. It is submitted that the outbreak of Covid-19 (13 months' period) resulted in an additional overhead burden of Rs. 62.01 Crore, which was entirely beyond the control of MSPGCL and could not have been anticipated or mitigated. If the impact of Covid-19 is excluded from the computation, the overheads as a percentage of the hard cost (excluding overheads) would worked out to 6.35%, which is closer to the 5% ceiling prescribed by the Hon'ble Commission. MSPGCL therefore respectfully urges the Hon'ble Commission to consider the extraordinary and unprecedented nature of the Covid-

19 pandemic while determining the admissible overhead costs, and to exclude the Covid-19 related overhead impact of Rs. 62.01 Crore, while comparing the actual overhead with the prescribe ceiling of overhead expense. Following are the details of the overhead bifurcated into overhead during Covid-19 period and overhead during non-covid-19 period.

Particulars	**Amount (incl. the Impact of Covid Period)**	**Impact of Covid-19 Period**	**Amount (excl. the Impact of Covid Period)**
Employee Cost	94.36	19.11	75.25
Admin cost	86.96	9.22	77.74
Corporate Costs	156.91	33.67	123.24
Total Overhead	338.23	62.01	276.23
Hard Cost (excl. Overhead)	4352.11		
Overhead % Hard Cost (excl. Overheads)	**7.77%**		**6.35%**

5.3.4.3 The Petitioner respectfully submits that limiting the admissible overheads to 5%, as provisionally approved by the Hon'ble Commission based on benchmark data from similarly sized units commissioned during the period 2013 to 2017, may not be appropriate in the present context. It is pertinent to note that the overheads have been claimed based on actual expenditure and the increase in employee costs due to pay revisions has contributed significantly to the overall rise in overheads as compared to the levels prevailing during 2013–2017.

5.3.4.4 Moreover, the Petitioner submits that it is neither practical nor reasonable to assume that the ratio of overheads to capital cost under current price levels would necessarily align with those applicable to past projects. Considering the above, the Petitioner prays that the Hon'ble Commission may kindly consider and allow the overheads based on actuals.

5.3.5 CSR related expenses:

5.3.5.1 The Environment Clearance (EC) for construction of Bhusawal unit 6 provided by MoE&F through letter dated 27.11.2012 (enclosed as **Annexure-10A**) subject to fulfilment of certain specific conditions. As per one of the conditions of EC, MSPGCL shall earmarked as one-time capital cost of Rs.18.20 Crore for CSR programme and subsequently shall incur recurring expenditure of Rs.3.64 Crore per annum till the life of the plant for CSR activities. Though the EC mentions this amount as CSR, this is factually Corporate Environment Responsibility (CER). Such CER requires project proponents to earmark a percentage of the project's total capital investment for environmental safeguards and local community needs.

5.3.5.2 As on the date of CoD, the capital expenditure incurred towards the Corporate Social Responsibility (CSR) programme amounts to Rs.4.58 Crore. The Petitioner submits that the remaining necessary capital expenditure related to the CSR programme shall be undertaken subsequently. Accordingly, the Petitioner prays that the Hon'ble Commission may be pleased to consider and allow such expenditure under additional capitalisation, on an actual basis.

5.3.5.3 Furthermore, recurring CSR-related expenditure amounting to Rs.3.64 Crore per annum is required to be incurred in compliance with the specific conditions stipulated under the Environmental Clearance (EC) granted by the Ministry of Environment & Forests (MoE&F). The Petitioner respectfully submits that such recurring expenditure be allowed over and above the normative O&M expenses, as these costs are statutory in nature and were not factored into the O&M norms specified for units of 500 MW and above under the MERC (MYT) Regulations, 2024.

5.3.6 **Actual Interest during construction (IDC):**

5.3.6.1 The IDC of Rs.1122.03 Crore considered as part of actual capital cost as on CoD is calculated as per actual pattern of drawl of loan and interest is accrued till the date of actual COD, i.e. 22.02.2025. The working of IDC as on COD is provided in form 14.9 of tariff formats attached as **Annexure-1**. The Petitioner respectfully submits that the IDC amount reflected in Form 14.9 of the tariff formats is Rs.1,203.43 crore. However, the IDC capitalised as on CoD stands at Rs.1,122.03 crore, as certain assets, though financed through loan drawls, have not yet been capitalised. Consequently, this results in the variance between the IDC amount indicated in Form 14.9 and the actual IDC amount considered in the capitalisation as on CoD.

5.4 Justification for increase in capital cost due to time over-run:

5.4.1.1 MSPGCL had issued a Letter of Award (LOA) for a single point EPC contract to M/s Bharat Heavy Electricals Limited (BHEL) on 31.12.2018. As per the envisaged schedule in the contract with M/s BHEL, the project was to complete trial operation in a time period of 42 months for Bhusawal Unit 6 from the date of LOA. Accordingly, CoD of the unit were to be achieved by 30.06.2022. The Petitioner submits the following regarding the delay in commissioning of Bhusawal Unit 6:

5.4.2 **COVID-19 Pandemic:**

5.4.2.1 COVID-19 pandemic caused significant disruptions in the supply chain and erection works. During the 1st and 2nd waves of COVID-19, the closure of global manufacturing units led to delays in material supply. Additionally, erection contractors had to demobilize and later remobilize at the sites, further delaying the project. M/s BHEL, vide letter dated 10.06.2021, sought a 13-month extension for completion of the work on account of the impact of the COVID-19 pandemic and accordingly requested an amendment to the contract. Further, vide letter dated 26.10.2021, M/s BHEL submitted the relevant correspondence from its sub-contractors highlighting their inability to honour the contractual obligations due to the lockdown imposed by the Government of India (GoI) and Government of Maharashtra (GoM), as well as various notifications and advisories issued by the GoI and GoM in this regard. M/s BHEL letter dated 26.10.2021 is enclosed as **Annexure-10B** to this Petition.

5.4.2.2 Due to COVID-19 restriction, there was a delay in finalising orders of imported items, which led to delay in Engineering, Civil and E&M works thereafter. The 'Make in India' Policy also impacted the finalization of orders of imported items. Steep rise in prices of steel, copper, etc., were observed post-pandemic and as a result, M/s. BHEL had to renegotiate or reorder few supply items due to backing down by its suppliers, which affected supply schedule. Post COVID-19 pandemic, M/s. BHEL observed a deterioration in the financial conditions of its sub-contractors. As a result, M/s. BHEL had to offload the civil works for the CHP, AHP and NDCT from under-performing contractors and reassign them to new contractors, at the risk and cost of the previous ones.

5.4.2.3 Thus, COVID-19 pandemic affected the supply and erection schedule, which has cascading effects on the completion of the project works.

5.4.3 **Deployment of inadequate manpower by M/s BHEL:**

5.4.3.1 There was inadequate deployment of skilled manpower by M/s. BHEL which has delayed Boiler ducting, structural works, electrical works, CHP structural welding works, CHP equipment commissioning, and railway siding works.

5.4.4 **Technical snag occurred during first synchronization, which led to starvation of boiler tubes:**

5.4.4.1 During the first synchronization of the Unit, technical snag occurred, which led to starvation of boiler tubes. M/s BHEL has agreed to repair the damaged portion with no additional costs. There will be no additional hard cost burden on MSPGCL for this. However, this has resulted in delay in COD by about 10 months. Subsequently, essential activities like hydraulic testing, chemical cleaning and re-trials for Boiler were required to be taken up.

5.4.5 **Timeline of the Project Completion:**

5.4.5.1 As per LoA issued to M/s BHEL, the initial contract period was 42 months. However, Due to Covid-19 pandemic, entire supply chain has been adversely affected as detailed in foregoing para. As a result, M/s BHEL has requested for the 13-months extension for work completion due to the impact of COVID-19. However, the Petitioner had granted an extension of 10 months for work completion to original schedule. In order to contain the spread of Covid-19, the Government of India ("GoI") as well as the Government of Maharashtra ("GoM") had, from time to time, issued various guidelines and advisories. The said guidelines/advisories, as issued by the GoI and GoM, are enclosed herewith and marked as **Annexure-11** for ready reference. M/s BHEL vide letter dated 26.02.2025 had submitted documentary evidence related to delay on account of Covid-19 and subsequently, vide letter dated 16.10.2025, M/s BHEL had requested the Petitioner to review the documentary evidence submitted earlier and requested to allow the extension appropriately. In response to the M/s BHEL request for extension of 13 months, the Petitioner has granted further 3 -months extension. Thus effectively the Petitioner has granted extension of 13 months in total. In view of this extension of 13 months, the schedule of the key milestone upto commissioning schedule is provided below.

Table 18: Timelines as per original schedule and revised schedule after initial 10 months extension

No.	Particulars	Original L2 Schedule Date	Revised L2 Schedule Date
1	Commencement of excavation for Boiler Foundation	13-07-2019	10-07-2019
2	Completion of Boiler Foundation	25-11-2019	15-11-2019
3	Boiler Erection Start	30-11-2019	22-11-2019
4	Ceiling Girder Lifting	30-06-2020	20-01-2021
5	Drainable Hydro Test	31-05-2021	04-11-2022
6	Non-Drainable Hydro test	10-11-2021	31-12-2022
7	Boiler light up	30-11-2021	20-01-2023
8	Chemical Cleaning start	20-12-2021	25-01-2023
9	Steam Blowing start	24-01-2022	05-02-2023
10	Condenser erection starts	31-10-2020	30-03-2022
11	Turbine erection Start	30-11-2020	03-03-2022
12	Generator Stator lifting	31-07-2021	04-06-2022
13	Turbine Box up	30-11-2021	10-01-2023
14	Turbine on Barring gear	23-01-2022	10-03-2023
15	First Synchronization	31-03-2022	17-03-2023
16	Coal Firing on Achieving commissioning of CHP & AHP	30-04-2022	22-03-2023
17	Completion of Trial Operation including 72 hours full load Operation (COD)	04-05-2022	19-04-2023
18	PG Test	30-06-2022	30-04-2023

5.4.5.2 In view of 13 months (10 + 3 months) extension, the CoD of Bhusawal Unit 6 as per revised L2 schedule stand revised to 19.07.2023 in place of 19.04.2023 and consequently, the date of PG Test also stand revised to 30.07.2023 in place of 30.04.2023.

5.4.5.3 The Petitioner has prepared the Delay Analysis Report of Bhusawal Unit 6 and attached as **Annexure-10** along with this Petition. The said Report provides reasons or justification for the delay in achievement of CoD as compared to the schedule envisaged as per original schedule and revised schedule after allowing 13 months extension. The delay analysis report covers the following:

- Reasons for delay in achieving CoD.
- Impact of critical delays on milestones.
- Non-critical delays to Milestones.
- Efforts undertaken by MSPGCL to expedite the project work.

5.4.6 Reason for Extension in project completion schedule

5.4.6.1 The lag in each milestone activity and the reasons for extension in timelines of the envisaged milestones are provided below:

Table 19: Timelines as per original schedule and revised schedule after 10 months extension

No.	Particulars	Revised L2 Schedule Date	Actual completion date	Delay attributable to M/s BHEL (in Days)	Reason/remark
1	Commencement of excavation for Boiler Foundation	10-07-2019	10-07-2019	-	
2	Completion of Boiler Foundation	15-11-2019	15-11-2019	-	
3	Boiler Erection Start	22-11-2019	22-11-2019	-	
4	Ceiling Girder Lifting	20-01-2021	20-01-2021	-	
5	Drainable Hydro Test	04-11-2022	04-11-2022	-	
6	Non-Drainable Hydro test	31-12-2022	28-03-2023	87	Quantum of major pending works mandatory for NDHT and insufficient resource deployment *
7	Boiler light up	20-01-2023	30-03-2023	69	Non-readiness of the boiler and the delayed execution of prerequisite activities such as the Non-Drainable Hydro Test (NDHT) *
8	Chemical Cleaning start	25-01-2023	15-06-2023	141	Incomplete readiness of critical systems such as the PRDS interconnection line and associated insulation works. The delay was further compounded by inadequate manpower deployment by M/s BHEL *
9	Steam Blowing start	05-02-2023	13-09-2023	220	Supply chain and execution-related shortcomings on the part of M/s BHEL *
10	Condenser erection starts	30-03-2022	30-03-2022	-	
11	Turbine erection Start	03-03-2022	03-03-2022	-	
12	Generator Stator lifting	04-06-2022	04-06-2022	-	
13	Turbine Box up	10-01-2023	10-04-2023	90	Challenges faced during the erection of the Turbine Generator, as well as delays in the Powerhouse-related construction areas and associated Balance of Plant (BOP) packages. In addition, technical and execution-related issues during the turbine erection process, under the scope of M/s BHEL, further contributed to the postponement *
14	Turbine on Barring gear	10-03-2023	11-08-2023	154	Inadequate deployment of resources that caused the prolonged erection of the Turbine Generator and associated packages *
15	First Synchronization	17-03-2023	17-01-2024	306	Key contributing factors included delayed material supply, incomplete civil and mechanical works, and slow progress in critical systems such as the chimney, NDCT, and cooling water infrastructure
16	Coal Firing on Achieving commissioning of CHP & AHP	22-03-2023	02-01-2025	652	Delay in supply of critical components, boiler restoration works, ESP and ducting insulation and the inadequate deployment of manpower by M/s BHEL subcontractor
17	Completion of Trial Operation including 72 hours full load Operation (COD)	19-07-2023	22-02-2025	584	Execution-related challenges, inadequate resource deployment, delays in ducting and insulation works followed by system readiness, thereby significantly impacting the timeline
18	PG Test	30-07-2023	Pending		

*Note: * Post covid Impact*

5.4.7 APTEL Judgement on capital cost approval

5.4.7.1 Regarding delay in execution of a Generation Project, the Appellate Tribunal for Electricity (APTEL), in its Judgment dated 27 April, 2011 in Appeal No. 72 of 2010, has ruled as follows:

"7.4. The delay in execution of a generating project could occur due to following reasons:

i) due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.

ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.

iii) situation not covered by (i) & (ii) above.

In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the Liquidated Damages recovered from the contractors/ suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time over-run including the Liquidated Damages and insurance proceeds could be shared between the generating company and the consumer…

...7.12. In view of the above, we feel that this case falls under category (iii) described in para 7.4. Accordingly, following the principles of prudence check laid down by us, the cost of time over run has to be shared equally between the generating company and the consumers. Admittedly, there is no enhancement as no price variation escalation was permissible to BHEL

beyond the schedule date of completion of the Project according to the terms of the agreement. ***The impact of time over run beyond the contractual schedule is only on IDC and overhead costs. Accordingly, the same have to be shared between the generating company and the consumers. Excess IDC and overhead costs for time over-run from scheduled date of commissioning to actual date of commissioning has to be worked out on prorate basis with respect to total actual time taken in commissioning of the Unit. 50% of the excess IDC and overhead costs will have to be disallowed. Deduction on account of 50% of the Liquidity Damages received by the Appellant from its suppliers/contractors has to be allowed from the capital cost to give due credit for Liquidated Damages to the consumers…..*** *"*

5.4.7.2 In view of above, it is submitted that APTEL has clearly stipulated that extra IDC on account of the delay has to be shared between the Generating Company and the consumers. Considering this, the Petitioner request the Hon'ble Commission to consider the aforesaid judgement while approving the final capital cost of Bhusawal Unit 6.

5.4.7.3 The IDC amount considered in estimated capital cost of Rs.6350.99 Crore, was worked out considering the anticipated COD in the month of Oct 2023. However, in actual the IDC is dependent on loan drawls and prevailing rate of interest from time to time during such drawl period and IDC required to be calculated upto the date of CoD. Therefore, the IDC amount considered in the initial cost approved by the Board cannot form the basis of regulatory consideration. In this regard reliance may also be placed on judgment of Hon'ble APTEL in Appeal No 34 of 2012. In the said judgment, the Hon'ble APTEL has recommended to consider the actual interest rate for IDC computation. Extract of the Hon'ble APTEL judgment is as provided below:

"…. According to the Tariff Regulations, the State Commission should have considered the actual rate of interest at which the debt was taken by the Appellant during the construction period.

Regarding interest rate for computation of IDC, we remand the matter to the State Commission granting an opportunity to the Appellant to submit the supporting documents for actual interest rate at which debt was obtained during the construction period and the State Commission shall consider the same and decide the matter as per law."

5.5 Reasonableness of cost

5.5.1.1 The Hon'ble Commission in Order (Case No. 154 of 2018) dated 01.08.2018, directed the Petitioner to comply with conditions of the Order as reproduced below:

"23. In view of above, the Commission approves coal based thermal power plant Bhusawal Unit 6 (1 X660 MW) subject to following condition.

i. The Hard Cost per MW of Bhusawal Unit 6 (1 X660) MW should be in line with the benchmark Hard Cost stipulated by the Central Electricity Regulatory Commission (CERC) vide its Order dated 4 June, 2012. The Commission shall disallow any increase in the Hard Cost determined on COD of its Unit (The Hard Cost will be linked to escalation in WPI during the applicable period as has been taken into account to arrive at the Hard Cost as on COD as per the methodology adopted by the Commission while approving the Capital Cost of Koradi Unit 8, 9 and 10).

ii. MSPGCL should adopt such method for contracting the work that saves time and the cost.

iii. The Commission directs MSPGCL to appraise the SLC (LT) about retirement units of Old Units to ensure seamless transfer of linkage for Bhusawal Unit 6. …"

5.5.1.2 In this regard, in the provisional Tariff Order of Bhusawal Unit 6 (Case No. 236 of 2023), the Hon'ble Commission has already analysed the estimated capital cost submitted by the Petitioner and ruled as under:

"2.6.2 The benchmark Hard Cost determined by the Central Electricity Regulatory Commission (CERC) in its Order dated 4 June, 2012 for an extension TPS (1 x 660 MW) with coal as fuel at the December, 2011 price level was Rs. 4.95 crore/MW. This includes Steam Generator/Boiler Island, Turbine Generator Island, associated Auxiliaries, Transformers, Switchgear, cables, cable facilities, Grounding & Lighting Packages, Control & Instrumentation, Initial Spares for BTG, BoP including cooling tower, water system, coal handling Plant, ash handling Plant, fuel oil unloading & storage, Mechanical Miscellaneous Package, switchyard, chimney, and emergency DG Set. It does not include merry-go-round and Railway siding, unloading equipment at jetty, and rolling stock, locomotive, and Transmission Line till the tie point. Further, as mentioned in the above conditions, the Commission has carried out analysis of the reasonableness of Hard Cost on similar lines, as detailed below.

2.6.3 The benchmark Hard Cost for TPS as per CERC's Order dated 4 June, 2012 is dynamic and based on market trends and indices and is subject to adjustment *considering inflation. The Hard Cost linked to escalation in WPI during the intervening period has been taken into account to arrive at the Hard Cost as on COD. The indicative benchmark norms for Hard Cost with the December, 2011 index as the base need to be escalated up to January, 2025 considering the Wholesale Price Index (WPI), for prudence check of the Hard Cost.*

2.6.4 As per the data of the Ministry of Commerce and Industry, GoI, the WPI for September, 2024 was 241.3 (considering 154.6 as per 2011-12 series and considering the linking factor of 1.561) as against 157.3 in December, 2011, i.e., an increase of 53%. Accordingly, the indicative benchmark Hard Cost works out to Rs. 7.57 crore/MW (4.95 + 53% inflation). The Hard Cost proposed by MSPGCL at Rs. 4855.62 (excluding ECS) works out to Rs. 7.34 Crore/MW, which is within the limit specified. Further, the Hard Cost of Rs. 4079.68 Crore as approved by the Commission provisionally works out to Rs. 6.18 Crore/MW, which is also well within the limit specified. Hence, the Commission has considered the same while approving the provisional Tariff as discussed in the subsequent Section."

5.5.1.3 As per the data of the Ministry of Commerce and Industry, GoI, the WPI for February 2025 (considering month of CoD of Bhusawal Unit 6), following is the calculation of WPI escalation as against 157.3 WPI value in December 2011.

Table 20: Working of WPI escalation for calculation of benchmark capital cost

Particulars	Formula	Value
WPI as on December 2011	a	157.3
WPI as on Feb 2025	b	154.9
Multiplication factor	c	1.561
WPI as on February 2025 after considering factor	d=b*c	241.80
WPI escalation from 2011 to 2025	e=d/a-1	53.72%

5.5.1.4 As per above, Considering the WPI escalation of 53.72%, benchmark hard cost as on Feb 2025 works out to Rs.7.61 Crore/MW (4.95+53.72%) considering base of Rs.4.95 Crore/MW of benchmark hard cost approved by CERC in its Order dated 04.06.2012. Following is the calculation and comparison of actual hard cost vis-à-vis benchmark hard cost worked out as on June 2025.

Table 21: Comparison of actual hard cost of Bhusawal Unit 6 vis-à-vis benchmark hard cost as of Feb 2025

Particulars	UoM	Formula	Value
Benchmark cost approved in December 2011	Rs. Crore/MW	a	4.95
WPI escalation from 2011 to 2025	%	b	53.72%
Benchmark cost as on Feb 2025	**Rs. Crore/MW**	**c=a*(1+b)**	**7.61**
Hard cost as on COD	**Rs. Crore**	**d**	**4,690.35**
Capacity	**MW**	**e**	**660**
Hard cost as on COD	**Rs. Crore/MW**	**f=d/e**	**7.11**

5.5.1.5 In view of the above comparison, the Petitioner submits that the actual hard cost of Bhusawal Unit 6 is within the benchmark cost approved by CERC and as directed by the Hon'ble Commission in Case No. 154 of 2018. Hence, the Petitioner most respectfully submits that despite of the delay in achieving CoD due to Covid-19 and other technical reasons, it may be evident that the petitioner has implemented Bhusawal unit 6 within the benchmark capital cost approved by CERC for the similar size of units. In light of this, the Petitioner request the Hon'ble Commission to approve the capital cost as submitted in this Petition.

5.6 Treatment of Revenue from Infirm Power:

5.6.1.1 The Regulation 24.9 of MERC (MYT) Regulations 2019 provides that the revenue earned from sale of infirm power prior to the COD in excess of fuel cost as specified under Regulation 44, shall be adjusted against the Capital Cost. Regulation 44 of MERC MYT regulation 2019 states the following with respect to recovery of infirm power revenue:

> ***"44 Sale of Infirm Power***
>
> *The supply of Infirm Power shall be accounted as deviation and shall be paid at Charges for Deviation for Infirm Power in accordance with the Maharashtra Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2019:*
>
> *Provided that any revenue earned by the Generating Company from supply of Infirm Power after accounting for the fuel cost shall be used for reduction in Capital Cost and shall not be treated as revenue."*

5.6.1.2 In view of above provisions provided in the Regulations, the Petitioner submits that it has Incurred fuel expenditure of Rs. 282.61 Crore for generation of infirm power up to COD of Bhusawal Unit 6. Against the same, MSPGCL has been billed an amount of Rs.79.48 Crore under DSM against sale of infirm power. Further, the Petitioner submits that these bills are raised and recognised by MSLDC.

Table 22: Amount of capitalization on account of unbilled infirm power revenue

Particulars	Amount (Rs. Crores)
Fuel expense for infirm power generation (a)	282.61
Infirm Power Billing (b)	79.48
Unbilled infirm power revenue (C=a-b)	**203.13**

5.6.1.3 The Petitioner respectfully submits that the higher fuel consumption during the pre-COD phase of Bhusawal Unit-6 was on account of the following technical and operational requirements, which are integral to commissioning and safe operation of a supercritical thermal unit:

1. **Multiple Trippings During Initial Operations**:
   - Post boiler light-up (02.01.2025) and up to COD (22.02.2025), the Unit experienced repeated trippings due to operational and safety interlocks (flame failure, CEP interlock, low ECO flow, etc.).
   - Each tripping required shutdown and subsequent restart, resulting in multiple startups and consequently excessive fuel consumption.
2. Mandatory Clean-up Cycles
   - Supercritical technology mandates stringent steam and water quality parameters (silica, ferrous, cation conductivity, dissolved oxygen, etc.) prior to turbine admission.
   - Multiple clean-up cycles involving flushing of Boiler, Deaerator, condenser, etc. were carried out under continuous fuel firing to ensure steam purity, leading to additional fuel usage.
3. Safety Valve Setting and Calibration
   - Calibration of boiler and turbine safety valves is a statutory requirement for safe operation.
   - Conducted at ~80% of valve pressure using Trevi test method under live steam conditions, this activity resulted in significant steam venting and fuel consumption.
4. Inferior Quality of Coal During COD Phase
   - The arrangement of coal was made as per schedule activities of trial operations after first synchronization in January 2024 and coal was stacked since then. So, the GCV of this coal found deteriorated during conclusion of trial run operations on 22.02.2025. This resulted in increase in specific coal consumption.

5.6.1.4 In view of the above, the Petitioner respectfully submits that the higher fuel consumption observed during the commissioning and pre-COD stabilization period was inevitable, being attributable to mandatory technical processes and external fuel quality constraints. Hence, the same may kindly be considered as justified and allow the unbilled infirm power revenue of Rs.203.13 Crore as part of capital cost of Rs.5812.38 Crore as on date of CoD of Bhusawal Unit 6.

5.6.1.5 The details of Fuel expenses and revenue from infirm power is attached as an **Annexure-12** (Soft Copy).

5.6.1.6 Further, in accordance with the Regulation 44, The Petitioner requests the Hon'ble Commission to allow recovery of Rs.79.48 Crore as revenue for compensative fuel. MSPGCL has deducted the same from the Capital cost of Bhusawal Unit 6 for the Tariff determination process.

5.7 Gain or Loss to Foreign Exchange risk Variation

5.7.1.1 Regulation 24.1 of MERC MYT Regulation 2019 allows the inclusion of any gain or loss on account of foreign exchange risk variation as part of capital cost on prudence check. The Petitioner submits that the Order issued to M/s BHEL is in Indian currency. Hence, there is no gain or loss due to foreign exchange risk variation to be considered for the determination of capital cost of Bhusawal Unit 6.

5.8 Capital Cost for Tariff determination

5.8.1.1 As detailed in the previous section, the overall capital cost for the purpose of tariff determination of Bhusawal Unit 6 has been considered as Rs. 5812.38 Crore. The calculation of capital cost for tariff determination is tabulated below.

Table 23: Capital cost for tariff determination purpose

Particulars	Amount (Rs. Cr)
Hard Cost before adding unbilled infirm power (a)	**4,487.22**
Fuel expense for infirm power generation (b)	282.61
Infirm Power Billing (c)	79.48
Unbilled infirm power revenue (d=b-c)	**203.13**
Hard Cost after adding unbilled infirm power (e=a+d)	**4,690.35**
IDC (f)	1,122.03
Total Cost (g=e+f)	**5,812.38**

5.8.2 Additional capitalisation after CoD:

5.8.2.1 The Petitioner proposes to incur additional capitalization of Rs. 23.68 Crore during FY 2024-25 after date of CoD towards balance works based on Regulations 25 of the MERC (MYT) Regulations, 2019. Details of the same has been given in Form 14.7 of formats attached as **Annexures-1** The additional capitalisation proposes during 5th MYT Control period as per provisions of Regulation 25 of MERC (MYT) Regulations, 2019 are covered in the subsequent section of this Petition.

5.8.3 **Liquidated Damages:**

5.8.3.1 MSPGCL awarded the contract to M/s BHEL for construction of 1 X 660 MW Bhusawal Unit 6. The Contract provided sufficient deterrent clauses to facilitate timely and smooth completion of the project.

- **LD for delay in completion of works**: If the contractor fails to complete the works within the guaranteed completion period (42 months), liquidated damages (LD) are payable by BHEL.
- **LD for failure to meet Performance Guarantee**: If after the completion of the performance guarantee test, it is proven that the performance guarantees are deviating from their value guarantee by the M/s BHEL, as stipulated under the contract, the M/s BHEL shall pay MSPGCL the Liquidated Damages as stipulated in the contract.
- **Overall cap for liquidated Damages**: Overall cap for liquidated damages for delay in completion of work and shortfall in performance of main plant equipment has been restricted to 15% of the total contract price.
- **Recovery of Excess IDC**: If trial operation is delayed beyond 45 months (due to reasons solely attributable to BHEL), MSPGCL shall retain increased IDC amount from future bills limited to 5% of the contract price.

5.8.3.2 As per the envisaged schedule in the contract with M/s BHEL, the Bhusawal Unit 6 project was to complete trial operations in a period of 41 months.

5.8.3.3 Even after making all diligent efforts within its purview, towards pursuing the contractor for expeditious commissioning of the unit, the project has taken more time than envisaged time framed other than delay allowed of 13 months on account of Covid-19 under force majeure clause. As per the provisions of the contract, MSPGCL has retained payments of M/s BHEL to the extent of Rs. 733.81 Crore as on COD of Bhusawal Unit 6 (1 X 660 MW) towards such extension in project completion schedule.

5.8.3.4 Further, it is submitted that certain balance works under the EPC Contract with M/s. BHEL remain pending. Specifically, the Flue Gas Desulphurisation (FGD) system and the Selective Catalytic Reduction (SCR) system are yet to be completed and handed over by M/s. BHEL. These systems form part of the contracted scope of work, and their pendency has a direct bearing on the determination of delays attributable to the contractor and, consequently, on the quantum of Liquidated Damages (LDs) to be levied under the contract.

5.8.3.5 MSPGCL further submits that the computation and finalization of LDs under the EPC Contract requires a comprehensive delay analysis, which necessitates an assessment of the overall project timeline vis-à-vis contractual milestones, identification of delays attributable to M/s. BHEL as against delays arising from force majeure, regulatory requirements, or other factors beyond the contractor's control. Given that the scope of work under the contract is yet to be fully executed, such a delay analysis cannot be conclusively conducted at this stage, as the final completion date of M/s. BHEL's obligations under the contract has not yet been established.

5.8.3.6 As per the package wise contracts, the total leviable LD and LD towards compensation towards excess IDC is worked out to Rs.701.58 Crore. The working of the same is given in the table below:

Particulars	Amount (Rs. Crore)
Total LD leviable	542.34
Add 5% IDC	159.25
LD leviable Plus 5% IDC	701.58

5.9 Funding for the Project and D/E ratio

5.9.1.1 MSPGCL has tied up long term debt of Rs. 3432 Crore at the rate of 9.15% p.a. with three-year reset towards Main Plant of Bhusawal unit 6. Subsequently MSPGCL has availed the additional loan sanctioned of Rs.1232.46 Crore as an additional loan and Rs.524 Crore towards FGD from REC. Relevant loan agreements (soft copy) have been attached as **Annexure-13**. The Government of Maharashtra (GoM) has also provided an equity contribution of Rs. 858 Crore as on date of CoD for development of this project. Relevant GR (soft copy) attached as **Annexure-14**.

5.9.1.2 At the time of COD of Bhusawal Unit 6 the capitalized amount of Rs 5812.38 Crore is funded through total equity of Rs. 858 Crore, which is received from Government of Maharashtra (GoM) and balance amount funded through loan.

5.9.1.3 As per the above said project cost, means of finances for the project cost as on CoD are shown in the table below:

Table 24: Means of Finance for Bhusawal Unit 6 (Rs. Crore)

Particulars	Amount (Rs. Crores)	Actual drawl as on CoD	Remark
Project Cost	**5,812.38**	**5,812.38**	
Debt			
REC			
Loan 1	3,432.00	3,432.00	Towards financing for Main Plant related capex
Loan 2	524.00	252.80	Towards installation of FGD & SCR and other modification works
Loan 3	1,232.46	775.96	for balance funding requirement
Total debt	**5,188.46**	**4,460.76**	
Equity	-		
GoM	858.00	858.00	
Undischarge liabilities		**493.62**	
Total Financing	**6,046.46**	**5,812.38**	

5.9.1.4 It may be noted from the above that the Petitioner has tied up adequate funding sources for the Bhusawal unit 6.

Table 25: Debt Equity Ratio for Bhusawal Unit 6 (Rs. Crore)

Particulars	Rs. Crore	%
Total Capitalisation (a)	**5,812.38**	**100.00%**
Debt (b)	4,460.76	83.87%
Equity (c)	858.00	16.13%
Undischarge liabilities (d)	493.62	
Total funding(e=b+c+d)	**5,812.38**	**100.00%**

5.9.1.5 The Petitioner submits that based on the equity contribution received from GoM against capitalisation as on date of CoD, debt equity ratio worked out to 83.87:16.13. Accordingly, the quantum of funding as currently considered in this petition may undergo a change which shall be shared with the Hon'ble Commission. Further, it is submitted that the debt equity ratio considered for additional capitalisation proposed post COD and during MYT Control Period is 80:20. The Petitioner further submits that it has submitted the request with GoM for consideration vide letter dated 18.01.2024 for an additional equity of Rs.412 Crore. The copy of the relevant letter dated 18.01.2024 to GOM is annexed as **Annexure-15**.

6 Determination of Final Tariff of Bhusawal unit 6 for FY 2024-25

6.1 Background

6.1.1.1 The Bhusawal unit 6 (1 x 660 MW) achieved its actual CoD on 22.02.2025 which fall under the applicable period of MERC (MYT) Regulations 2019. The Hon'ble Commission has approved provisional tariff for FY 2024-25 (Feb-2025 and March-2025) vide Order dated 27.12.2024 in Case No. 236 of 2023. Further, tariff of Bhusawal Unit 6 for MYT Control period FY 2025-26 to FY 2029-30 has been approved in MYT Order dated 28.03.2025 in Case No. 187 of 2024, based on the provisional capital cost and consideration submitted for fuel cost as a part of MYT Petition.

6.1.1.2 Considering the revised/final capital cost as on COD (i.e.22.02.2025) of Rs.5812.38 Crore submitted in the foregoing section of this Petition, tariff for FY 2024-25 (Feb-2025 and March 2025) needs to be re-determined, as it needs to be considered for comparison with actual ARR for the purpose of final True Up for FY 2024-25 as required as per requirement of True up petition to be filed by 01.11.2029 in accordance with Regulation 5.1 (c) of MERC (MYT) Regulations 2024. Hence, the approval of capital cost, determination of tariff for FY 2024-25 and accordingly, provisional True Up for FY 2024-25 (Feb-2025 and March-2025) is submitted in accordance with the provisions of MERC (MYT) Regulations, 2019. Further, the Petitioner has submitted for the determination and approval of tariff for MYT Control period FY 2025-26 to FY 2029-30 as per the provisions of MERC (MYT) Regulations 2024.

6.1.1.3 The said MYT Regulations have been notified under powers conferred to the Hon'ble Commission under Section 61 of the Electricity Act, 2003. Further, Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by a generating company. The Hon'ble Commission is vested with the jurisdiction to regulate the tariff of Generating Companies owned or controlled by a State Government and other Generating Companies as envisaged under Section 86(1)(a) & (b) of Electricity Act, 2003.

6.2 Operational Performance of the Stations:

6.2.1 Availability and PLF:

6.2.1.1 As per the Regulation 46.1 of MERC (MYT) Regulations 2019, target availability for full recovery of Annual Fixed Charges shall be 85 per cent for thermal Generating Stations. Further, as per Regulation 46.3 of MERC (MYT) Regulations 2019 target PLF for incentive for thermal Generating Stations/Units shall be 85 per cent. In view of this, normative availability and PLF for Bhusawal unit 6 for FY 2024-24 is considered as 85%.

6.2.1.2 The following are the actual availability and PLF of Bhusawal unit 6 for FY 2024-25 considering CoD w.e.f. 22.02.2025.

Table 26: Availability and PLF for FY 2024-25

Particulars	FY 2024-25 (actual from 22.02.2025 to 31.03.2025)	
	Normative	Actual
Availability (%)	85%	51.40%
PLF (%)	85%	54.33%

6.2.1.3 The actual Availability (%) and PLF (%) indicated in the above table have been computed based on a total of 38 days of generation, starting from 22.02.2025. The Petitioner respectfully submits that subsequent to the Commercial Operation Date (COD), four instances of tripping/outages occurred during FY 2024-25, primarily attributable to post-COD stabilization activities. Further, a request for Performance Guarantee (PG) test shutdown was received from M/s BHEL on 06.02.2025. The summary of the said forced outages during the period from 22.02.2025 to 31.03.2025, along with their corresponding impact on plant availability, is furnished below for kind consideration:

SN	Outage reason	Type	Trip date	Generation loss (MU's)	Impacted AVF (%)
1	Switchgear- 11 KV Breaker Problem- UT 6BA Board Tripped	Forced	24-2-2025 11:56	5.654	0.94%
2	Turbine Bearings Pedestal No. 5 & 6 Vibration High	Forced	1-3-2025 12:31	7.271	1.21%
3	PG Test Preparations and Allied works	Planned	5-3-2025 0:04	162.470	26.99%
4	PA FAN-6B HIGH VIBRATION PROBLEM	Forced	25-3-2025 17:21	2.321	0.39%
	For FY 2024-25 (22.02.2205 to 31.03.2025)			177.716	29.52%

SN	Outage reason	Type	Root Cause Analysis
1	Switchgear- 11 KV Breaker Problem- UT 6BA Board Tripped	Forced	UT-6A, 6BA board bus PT fuse failure
2	Turbine Bearings Pedestal No. 5 & 6 Vibration High	Forced	TA set vibration found normal, but fault tripping signal generated from meqqit system due to mismatch between configuration file in server & I/O card.
3	PG Test Preparations and Allied works	Planned	As per request from M/s BHEL dtd 06.02.2025
4	PA FAN-6B HIGH VIBRATION PROBLEM	Forced	Malfunctioning of motor bearing vibration sensor results in fan bearing vibration Y value to reach up to tripping value.

6.2.1.4 The Petitioner respectfully submits that, in light of the aforesaid forced outages and the planned outage undertaken for Performance Guarantee (PG) test preparation, the actual availability of the unit has been adversely impacted. Accordingly, the Petitioner humbly prays that the Hon'ble Commission may kindly consider the actual availability at 80.92% [comprising 29.52% deemed availability and 51.40% actual availability], considering the operational challenges encountered during the stabilization phase of the unit.

6.2.1.5 Accordingly, the Petitioner respectfully submits that the entitlement of Annual Fixed Charges, may kindly be allowed in proportion to the availability of 80.92%, with full fixed cost recovery considered at availability of 85%.

6.2.2 **Gross and Net generation:**

6.2.2.1 Following is the gross and net generation of Bhusawal unit 6 for FY 2024-25 for the period from 22.02.2025 to 31.03.2025.

Table 27: Gross generation and Net Generation of Bhusawal unit 6 for FY 2024-25

Particulars	FY 2024-25
	Actual
Gross Generation (MU)	308.24
Net Generation (MU)	278.77

6.3 Operational parameters for FY 2024-25

6.3.1.1 Following are the technical details of Bhusawal Unit 6 considered in the Petition for determination of provisional tariff:

Table 28: Technical Details for Bhusawal Unit 6 (Rs. Crore)

Particulars	Units	Claimed
Capacity (MW)	MW	660
Pressure Rating	kg/cm2	247
SHT/RHT	0C	565/593
Type of Boiler Feed Pump		Turbine Driven
Cooling tower		NDCT
Flue Gas Plant (Wet Lime Stone)		
SCR - Anhydrous Ammonia		
Operational Parameters		
Maximum Turbine Cycle Heat Rate as per MYT Regulations, 2019	kCal/kWh	1850
Minimum Boiler Efficiency as per MYT Regulations, 2019		86%
Guaranteed Turbine Cycle Heat Rate (a)	kCal/kWh	1813.10
Guaranteed Boiler Efficiency (b)	%	89.00%
Design Heat Rate (c=a/b)	kCal/kWh	2037.19
Maximum Design Heat Rate as per MYT Regulations, 2019 (d)	kCal/kWh	2222.00
Allowable Design Heat Rate (e)	kCal/kWh	2037.19
Allowable Gross Station Heat Rate (1.05* Design Heat Rate) (f=e*1.05)	**kCal/kWh**	**2139.05**

6.3.2 **Station heat rate:**

6.3.2.1 Normative SHR for FY 2024-25 considered the same as approved in provisional Tariff Order (Case No. 236 of 2023) which has been approved by the Hon'ble Commission as per the Petitioner's submission in provisional Tariff Petition as per Regulation 46.8 of NERC (MYT) Regulations 2019 as tabulated below:

Table 29: Station heat rate approved in Provisional Tariff Order (Case No. 236 of 2023)

Particulars	Units	MSPGCL Submission	Approved
Maximum Design Heat Rate as per MYT Regulations, 2019	kcal/kWh	2,222.00	2,222.00
Allowable Design Heat Rate	kcal/kWh	2,037.19	2,037.19
Allowable Gross Station Heat Rate (1.05* Design Heat Rate)	kcal/kWh	2,139.05	2,139.05

6.3.2.2 From the above table, it may be noted that the design heat rate submitted by the Petitioner is within the maximum design heat rate specified as per MERC (MYT) Regulations 2019. However, considering the operation of the Bhusawal unit 6 for FY 2024-25 is only for 38 days, the actual SHR for FY 2024-25 is appearing higher than the norms. In view of this, the Petitioner requests the Hon'ble Commission to approve the SHR as per normative and actuals submitted in the above table and allow the fuel cost accordingly.

6.3.3 Auxiliary Energy Consumption:

6.3.3.1 The Petitioner submits that Bhusawal unit 6 is Commissioned on 22.02.2025. However, since Emission Control System (FGD and SCR) of Bhusawal unit 6 is yet to be commissioned as of 31.03.2025, for the purpose of revised tariff determination of FY 2024-25, normative auxiliary energy consumption of Bhusawal unit 6 is considered as 5.75% as per Regulations 46.13 of MERC (MYT) Regulations, 2019 and 46.17 (A) of MERC (MYT) (Second Amendment) Regulations, 2023 as worked out below.

Table 30: Auxiliary Energy Consumption for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	Normative	Actual
With Steam driven boiler feed pumps	5.75%	9.56%
Direct cooling air cooled condensers with mechanical draft fans		-
Lime Spray Dryer or Semi Dry FGD system		-
Selective Catalytic Reduction System		-
Allowable Auxiliary Consumption	**5.75%**	**9.56%**

6.3.3.2 The detailed breakup of Auxiliary Energy Consumption for FY 2024-25 with the justification of incurred figure is given in the table below:

Month	Gross Gen (MU)	APC (MU)	APC (%)	Reason for High Auxiliary Energy Consumption
Feb-25	89.375	7.789	8.72	1) Total 7 nos. trippings (6 No.Forced, 01 No.Planned). During above outages some Auxiliaries has to be kept in running condition which increases unit APC 2) MDBFP Running Hours due to outage which caused major rise in APC 3) TDBFP A Outage due to Mechanical Seal Problem (BHEL design issue) 4) Due to absence of dedicated CT & PT for Ex-Bus measurement Action Taken / Proposed :- 1.TDBFP-A Mechanical seal leakage work attended by M/S BHEL 2.Matter taken with MSTCL for installation of dedicated 0.2S Class CT & PT and Dedicated PT of 0.2 Class installed & taken in service from Dt.01.03.2026
Mar-25	218.863	21.672	9.90	
Total			9.56	

6.3.4 Secondary Fuel Oil Consumption (SFOC):

6.3.4.1 The Regulation 46.11 of MERC (MYT) Regulations, 2019 prescribed the SFOC norm of 0.5ml/ kWh for coal based generating stations. Accordingly, the Petitioner has considered the same for calculation of tariff determination of Bhusawal Unit 6.

Table 31: Secondary Fuel Oil Consumption for FY 2024-25 (Rs. Crore)

Particulars	UoM	Normative	Actual
SP. Oil Consumption	ml/kWh	0.50	3.25

6.3.4.2 The detailed breakup of SFOC for FY 2024-25 with the justification of incurred figure is given in the table below:

Month	Gross Gen.(mus)	Consumption (KL)			SOC	Reason for High SOC
		LDO	HFO	Total	ml/kwh	
		KL	KL	KL		
Feb-25	89.38	49	174	222	2.49	1) Start-up time for all start up (hot/warm/cold) was more than time provided in OEM start up curve. BHEL hasn't demonstrated start-up time provided by OEM. 2) Total 7 nos. trippings (6 No. Forced, 01 No.Planned). Action Taken / Proposed :- 1. Matter taken with M/s BHEL vide letter no. 0168 dtd. 27 Feb 2026 to demonstrate the start-up time. 2. All Forced Outages Matter taken with M/S BHEL and root cause analysis done & long term action taken to avoid recurrence
Mar-25	218.86	188.50	589.99	778	3.56	
Total	**308.24**	**237.15**	**763.70**	**1000.85**	**3.25**	

6.3.4.3 The Petitioner respectfully submits that the higher secondary oil consumption observed during FY 2024-25 (post-COD) is attributable to the forced and planned outages, as elaborated in the foregoing section on availability. A detailed outage-wise assessment of secondary oil consumption for Bhusawal Unit-6 during the period from 22.02.2025 to 31.03.2025 is furnished below for consideration of the Hon'ble Commission:

SN	Outage reason	Type	Trip date	LDO (KL)	FO (KL)	Total (KL)
1	Switchgear- 11 KV Breaker Problem-UT 6BA Board Tripped	Forced	24-2-2025 11:56	26.5	70	96.5
2	Turbine Bearings Pedestal No. 5 & 6 Vibration High	Forced	1-3-2025 12:31	6.35	161	167.35

SN	Outage reason	Type	Trip date	LDO (KL)	FO (KL)	Total (KL)
3	PG Test Preparations and Allied works	Planned	5-3-2025 0:04	159.3	184.3	343.6
4	PA FAN-6B HIGH VIBRATION PROBLEM	Forced	25-3-2025 17:21	8.4	94.88	103.28
	For FY 2024-25 (22.02.2205 to 31.03.2025)			200.55	510.18	710.73

SN	Outage reason	Type	Reason for high oil consumption
1	Switchgear- 11 KV Breaker Problem- UT 6BA Board Tripped	Forced	i) TDBFP-A DE/NDE side mechanical seal broken. ii) Boiler MFT on RH protection due to malfunction of LPBP injection valve iii) CEP B tripping-suction strainer choked up.
2	Turbine Bearings Pedestal No. 5 & 6 Vibration High	Forced	i) Gen. Mechanical protection operated ii) Separator level high trip ii) MFT on flame failure - GH 3 gun AC supply issue.
3	PG Test Preparations and Allied works	Planned	i) Gen. Mechanical protection operated ii) Separator level high trip ii) MFT on flame failure - GH 3 gun AC supply issue. iv) Generator Stator water flow Tx Problem
4	PA FAN-6B HIGH VIBRATION PROBLEM	Forced	ID fan A outlet gates not opening from DCS & Bearing hydraulic temp reached to 75 Deg C

6.3.4.4 In light of the aforesaid reasons leading to higher secondary oil consumption, the Petitioner respectfully prays that the Hon'ble Commission may be pleased to consider the actual secondary oil consumption for FY 2024-25 as the normative level and allow recovery of the same appropriately.

6.3.5 **Transit and handling loss:**

6.3.5.1 The MERC (MYT) Regulations, 2019 specify the normative transit and handling loss of 0.80% for non-pit head generating stations for domestic coal. Hence, for calculation of normative fuel cost as per actual gross generation, transit loss considered limited to 0.80%.

Table 32: Transit and handling loss for FY 2024-25 (Rs. Crore)

Particulars	Normative	Actual
Transit and Handling Loss %	0.80%	1.34%

6.4 Fuel expenses:

6.4.1.1 The Petitioner submits that actual fuel expense of Bhusawal Unit 6 for FY 2024-25 is Rs.126.19 Crore.

6.4.2 **Price of Primary and secondary fuel:**

6.4.2.1 The Regulation 50.6 of the MERC (MYT) Regulations, 2019 specifies that the landed cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months.

> *"…….*
>
> *Provided that the **landed cost of primary fuel and secondary fuel for tariff determination** shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating Station, preceding the first month for which the Tariff is to be determined for existing stations **and immediately preceding three months in case of new generating stations shall be taken into account** :*
>
> *……." **"Emphasis added"***

6.4.2.2 However, since this Petition is being filed for tariff determination based on the final capital cost as on the COD and FY 2024-25 has already concluded with actual fuel cost data available, the Petitioner respectfully submits that the actual fuel price details for FY 2024-25 have been considered for computing the normative fuel cost.

6.4.2.3 Further, the variation in fuel cost on account of variation in price of primary and/or secondary fuel prices are uncontrollable factors as per Regulation 9.1 of MERC (MYT) Regulations 2019. Hence, for the calculation of normative fuel cost, the prices of primary fuel and secondary fuel have been considered as per actuals. Further, operational parameters (SHR, secondary fuel oil consumption, transit and handling losses) are controllable factors, hence, normative fuel cost calculated considering normative operational parameters for the purpose of approval of tariff for FY 2024-25.

6.4.2.4 The working of actual and normative fuel cost is provided in Form 2 of tariff formats attached as **Annexure-1.**

6.4.3 Variation in GCV 'As billed' and 'As Received':

6.4.3.1 Regarding the variation in GCV 'As Billed' and 'As Received', the Petitioner most respectfully submits that the Hon'ble Commission has acknowledged the GCV loss of 750 kcal/kg for MYT period in the MYT Regulations 2024. Therefore, the fact of actual GCV loss as admitted by the Hon'ble Commission for MYT period (FY 2025-26 to FY 2029-30) also remain relevant for period FY 2022-23 to FY 2024-25 for FY 2024-25 also. It is settled law that similar facts must be treated in a similar fashion so as to not be arbitrary/ discriminatory. In view of this, MSPGCL request the Commission to allow GCV loss of 750 kcal/kg for FY 2024-25.

6.4.3.2 The Petitioner further submits that despite MSPGCL's request (in foregoing para) to the Hon'ble Commission to permit a GCV variation of at least 750 kcal/kg between the 'As Billed' and 'As Received' GCV, in view of the fact that the matter is sub-judice before the Hon'ble APTEL, the Petitioner has calculated its claim for normative fuel costs for FY 2024-25 based on a GCV gap of 650 kcal/kg approved by the Hon'ble Commission in MTR review Order (Case No. 132 of 2023). Further, the Petitioner respectfully seeks appropriate relaxations for FY 2024-25 by invoking the provisions of the MYT Regulations, 2019, under the clauses for "Power to Relax" and "Power to Remove Difficulties." Further, the Petitioner most respectfully submits that the Petition for Bhusawal Unit 6 (1 x 660 MW) is distinct and independent from the matter currently sub-judice before the Hon'ble APTEL. Hence, the Petitioner request the Hon'ble Commission to allow the GCV variation of 750 kCal/kg for Bhusawal unit 6 while approving the normative fuel cost for FY 2024-25 as accepted for 5th MYT Control period.

6.4.3.3 Accordingly, following is the GCV and other coal related considerations have been taken for the calculation of normative fuel cost for FY 2024-25.

Table 33: Coal related considerations for calculation of normative fuel cost for FY 2024-25

Particulars	UoM	Raw Coal	
		Normative	Actual
GCV as Billed (A)	kCal/kg	3,998	3,998
GCV variation in loading and unloading end (B)	kCal/kg	588	588
GCV as received (C=A-B)	kCal/kg	3,410	3,410
Stacking Loss (D)	kCal/kg	85	353
GCV as fired (E=C-D)	kCal/kg	3,325	3,057
Transit loss of coal	%	0.80%	1.34%
Cost of Coal	**Rs./MT**	**2,953.41**	**3,065.64**
add: Freight	Rs./MT	1,653.64	1,653.64
Total Landed cost of coal including freight	**Rs./MT**	**4,607.05**	**4,719.27**
Total Landed cost of coal including freight after transit loss	**Rs./MT**	**4,644.20**	**4,781.85**

6.4.3.4 The secondary fuel oil related considerations taken for calculation of normative fuel cost for FY 2024-25 as shown below:

Table 34: Secondary fuel oil related considerations for normative fuel cost for FY 2024-25

Particulars	UoM	Amount	Basis
Specific secondary fuel oil consumption - Normaive	ml/kWh	0.50	As per Regulations 46.11 of MERC (MYT) Regualtions 2019
Specific secondary fuel oil consumption - Actual	ml/kWh	3.25	
Calorific value of secondary fuel oil - FO	kCal/litre	10,564	Actual
Calorific value of secondary fuel oil - LDO	kCal/litre	11,267	Actual
Price of FO	Rs./kl	56,118	Actual
Price of LDO	Rs./kl	69,720	Actual

6.4.3.5 FGD and SCR system for Bhusawal unit 6 has not commissioned during FY 2024-25. Hence, there is no cost of reagent considered during FY 2024-25.

6.4.3.6 Based on the above consideration for normative calculation and as per actual fuel expenses, following is the summary of normative and actual fuel cost for FY 2024-25 (22.02.2025 to 31.03.2025).

Table 35: Total fuel cost for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	UoM	Normative	Actual
Cost of Coal	Rs. Crore	99.24	120.27
Cost of Oil	Rs. Crore	0.91	5.92
Total Fuel Cost	**Rs. Crore**	**100.15**	**126.19**

6.5 Fixed Cost

6.5.1 Background:

6.5.1.1 The Petitioner submits that provisional tariff has been approved for FY 2024-25 in provisional Tariff Order (236 of 2023) based on the estimated capital cost as on CoD. Now, based on the final capital cost as on CoD, tariff required to be re-determined for the purpose of comparison with actuals for True up exercise of FY 2024-25. Considering this, fixed charges are calculated based on final capital cost as on CoD and actual expenses which are part of fixed charges for FY 2024-25 (22.02.2025 to 31.03.2025).

6.5.2 **Proposed capitalisation post CoD during FY 2024-25:**

6.5.2.1 The Petitioner submits that it has proposed capitalisation of Rs.23.68 Crore post-date of Commissioning of Bhusawal unit 6 during FY 2024-25. Hence, in addition to the capitalisation amount of Rs. 5812.38 Crore as on CoD, the Petitioner has considered additional capitalisation of Rs.23.68 Crore and considered total capitalisation during FY 2024-25 as Rs.5836.07 Crore. The details of additional capitalisation of Rs.23.68 Crore are provided in form 14.7 of formats attached as **Annexure-1** along with this Petition.

6.5.3 **Operations and Maintenance Expenses**

6.5.3.1 The Petitioner submit that O&M expense of Rs. 9.23 Crore claimed for FY 2024-25 as per actuals. The details of actual O&M expenses are provided in form F3.2, F3.3 and F3.4 of formats attached along with this Petition. For tariff determination, normative O&M expenses for FY 2024-25 are calculated as per norm of Rs. 17.27 Lakhs/MW in accordance with Regulations 47.2 of MERC (MYT) Regulations, 2019. Considering the CoD of Bhusawal unit 6 on 22.02.2025, the normative O&M expenses for FY 2024-25 considered proportionately for 38 days (22.02.2025 to 31.03.2025).

Impact of pay revision and wage revision:

6.5.3.2 The Petitioner has implemented a pay revision for its employees through Circulars No. 546, 548, and 549 dated 09.08.2024, with retrospective effect from 01.04.2023. Bhusawal Unit 6, being a new generating station commissioned after 26.08.2005, is eligible for O&M expenses as per the approved norms based on capacity (Rs. Lakh/MW). These norms, approved by the Hon'ble Commission, are derived from historical actual O&M expenses of similar-sized units across various generating companies. However, the Petitioner respectfully submits that the impact of the above pay revision having been notified on 09.08.2024, was not factored into the approved norms. Therefore, the Petitioner requests that the impact of pay revision be allowed over and above the O&M norms specified for new generating stations.

6.5.3.3 Further, in view of the above, the Hon'ble Commission has approved the pay revision as per aforesaid circulars for other new generating stations of MSPGCL in the MYT Order (Case No. 187 of 2024), over and above the O&M norms specified under Regulation 48.2 of the MERC (MYT) Regulations, 2019. Accordingly, for estimating the impact of pay revision for Bhusawal Unit 6 for FY 2024-25, the Petitioner has calculated the impact as one-third (660/1980 MW) of the amount approved for Koradi Units 8 to 10 (3 x 660 MW) (being similar size of the units) for FY 2024-25 in the said MYT Order. This amount has been further proportioned for a period of 38 days, corresponding to the operational period of Bhusawal Unit 6 post CoD during FY 2024-25. The Petitioner further submits that the final amount of pay revision along with documentary evidence shall be submitted at the time of final True Up of FY 2024-25.

6.5.3.4 Further, regarding wage revision, the regulation. 47.1 (e) of MERC (MYT) Regulations, 2019 specifies as under:

"….

e) The impact of Wage Revision, if any, may be considered at the time of true-up for any Year, based on documentary evidence and justification to be submitted by the Petitioner:

Provided that if actual employee expenses are higher than normative expenses on this account, then no sharing of efficiency losses shall be done to that extent:

Provided further that efficiency gains shall not be allowed by deducting the impact of Wage Revision and comparison of such reduced value with normative value.

f) Provisioning of wage revision expenses shall not be considered as actual expenses at the time of true-up, and only expenses as actually incurred shall be considered.

…."

6.5.3.5 In light of above provisions, the wage revision impact shall be submitted at the time of true-up of FY 2024-25.

6.5.3.6 Accordingly, normative total O&M expenses worked out for FY 2024-25 vis-à-vis actual O&M expenses are shown as below:

Table 36: O&M Expenses for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative	Actual
Employee expense	18.74	11.87	4.99
A&G expense	-		3.33
R&M expense	-		0.92
Pay Revision Impact	-	0.87	0.87
O&M expense	**18.74**	**12.73**	**10.10**

6.5.3.7 The environmental clearance of Bhusawal unit 6 given by the MoE&F of GoI is subject to fulfilment of the certain conditions. As per one of the conditions specified in environmental clearance, the Petitioner is required to earmarked Rs.18.20 Crore for one-time capital cost for CSR programme and subsequently recurring expenditure of Rs.3.64 Crore per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. In view of compliance of such requirement, the Petitioner respectfully submits that at the time of True of respective years, actual recurring expenses towards CSR activities shall be claimed over and above the norm of O&M expenses for Bhusawal unit 6. The Petitioner request the Hon'ble Commission to allow to claim these recurring expenses in True Up of respective years.

6.5.3.8 In view of above, the Petitioner requests the Hon'ble Commission to approve total actual O&M expenses of Rs 9.23 Crore and Rs.0.87 Crore as impact of payment revision for FY 2024-25.

6.5.4 Depreciation

6.5.4.1 MSPGCL submits that the depreciation for FY 2024-25 has been computed based on Regulation 28 of MERC (MYT) Regulation, 2019.

6.5.4.2 The depreciation has been computed based on straight line method at the rates specified in the Regulations on the opening balance of the GFA at the time of commissioning. Further, Regulation 28.1 (b) of the MERC (MYT) Regulations, 2019 provides that once the individual asset depreciates to the extent of 70% of the value of the asset, remaining depreciable value as of the 31st of March of the year closing shall be spread over the balance useful life of the asset. Life of asset is considered to be 25 years.

6.5.4.3 Considering the CoD of Bhusawal Unit 6 on 22.02.2025, depreciation for FY 2024-25 worked out for 38 days.

6.5.4.4 Accordingly, the depreciation for FY 2024-25 worked out as shown in below table. The Petitioner requests the Hon'ble Commission to approve the same for calculation of provisional tariff for FY 2024-25

Table 37: Depreciation for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
Depreciation	Rs. Crore	43.17	31.36

6.5.5 Interest on Loan

6.5.5.1 After considering the equity infusion by GoM of Rs.858 Crore as on CoD date, the balance funding requirement for additional capital expenditure post CoD of Bhusawal unit 6 is being met through debt equity ratio of 80:20. REC has sanctioned following long-term loan to the Petitioner for Bhusawal unit 6.

Table 38: Loan sanctioned for Bhusawal Unit 6

Financial Institution	Loan amount sanctioned (Rs. Crore)	Rate of Interest	Actual amount availed as on 31.03.2025	Purpose of loan
REC - Loan 1 - 13399	3,432.00	9.26%	3,432.00	Main loan for Plant and machinery
REC - Loan 2 - 18246	1,232.46	9.40%	775.96	Additional loan
REC - Loan 3 - 15090 FGD	524.00	10.00%	252.80	Emission control system
Total	**5,188.46**	**9.37%**	**4,460.76**	

6.5.5.2 Regulation 30.6 of MERC (MYT) Regulations, 2019 provides that interest on the loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

6.5.5.3 MSPGCL submits that it has worked out the weighted average interest rate of loan of 9.33% based on the average balance of actual loan availed during FY 2024-25 and interest paid during FY 2024-25. The working of the weighted average rate provided in form F6 of tariff formats attached as **Annexure-1**.

6.5.5.4 The Regulation 30.8 of MERC (MYT) Regulations, 2019 provides that the finance charges incurred for obtaining loans from financial institutions for any year shall be allowed by the Hon'ble Commission at the time of truing up, subject to prudence check. Accordingly, the Petitioner will claim finance charge on actuals at the time of truing up.

6.5.5.5 The total normative interest on loan for FY 2024-25 in accordance with the aforesaid Regulations worked out as shown below. The Petitioner requests the Hon'ble Commission to approve the same for calculation of provisional tariff for FY 2024-25.

Table 39: Interest on Loan for FY 2024-25 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
Opening Balance of Loan	Rs. Crore	3,978.71	-
Less: Reduction of Normative Loan due to retirement or replacement of assets	Rs. Crore	-	-
Addition of Loan during the year	Rs. Crore	3,481.37	4,973.32
Repayment of the loan during the year	Rs. Crore	43.17	31.36
Closing balance of Loan	Rs. Crore	7,416.91	4,941.96
Average loan	Rs. Crore	5,697.81	4,941.96
Interest Rate	Rs. Crore	9.20%	9.33%
Interest of loan	**Rs. Crore**	**59.87**	**47.99**

6.5.5.6 The Petitioner request the Hon'ble Commission to approve the normative interest on loan for FY 2024-25 as tabulated above.

6.5.6 Interest on Working Capital

6.5.6.1 The Petitioner has computed the Interest on Working Capital as per the provisions of the Regulations 32.1 (a) of the MERC (MYT) Regulations, 2019 applicable for the 4th Control period.

"32.1 Generation

(a) In case of coal based/lignite-fired Generating Stations, working capital shall cover:

(i) Cost of coal or lignite and limestone towards stock, if applicable, for fifteen days for pit-head Generating Stations and thirty days for non-pit-head Generating Stations, for generation corresponding to target availability, or the maximum coal/lignite stock storage capacity, whichever is lower;

(ii) Cost of coal or lignite and limestone for thirty days for generation corresponding to target availability;

(iii) Cost of secondary fuel oil for two months corresponding to target availability;

(iv) Normative Operation and Maintenance expenses for one month;

(v) Maintenance spares at one per cent of the opening Gross Fixed Assets for the Year; and

(vi) Receivables for sale of electricity equivalent to ***forty-five days*** *of the sum of annual fixed charges and energy charges approved in the Tariff Order for ensuing year/s, computed at target availability and excluding incentive, if any: minus*

(vii) Payables for fuel (including oil and secondary fuel oil) to the extent of thirty days of the cost of fuel computed at target availability, depending on the modalities of payment:" ***(Emphasis added)***

6.5.6.2 Regarding receivables to be considered as per above formula and 'due date' as per MERC (MYT) (Second Amendment) Regulation 2023 notified on 08.06.2023 is contravening to each other. As per said Amendment notified on 08.06.2023 due date is defined through clause No.42, as reproduced as under:

"4.12 Clause (33) (a), (b), and (c) are introduced after Clause (33) of the Principal Regulations: —

"(33) (a) "due date" means the date by which the bill for the charges for power supplied by the Generating Company or for the transmission service provided by a Transmission Licensee are to be paid, in accordance with the Agreement, as the case may be, and if not specified in the Agreement, forty-five days from the date of presentation of the bill *by such Generating Company or Transmission Licensee/STU;"* ***(Emphasis added)***

6.5.6.3 The Petitioner submits that as per the Power Purchase Agreement (PPA) signed between the Petitioner and MSEDCL (dated 01.04.2009 and subsequent amendment dated 24.12.2010 and 17.04.2013), the due date of the payment of the energy bills is 60 days from the date of billing. The due date of 60 days has been considered by the Petitioner and MSEDCL for the reference of payment and levying of delay payment or interest.

6.5.6.4 During the relevant period, the applicable tariff Regulations i.e. MERC (MYT) Regulations 2011 also provides for due date of energy bills as two months (60 days). The relevant excerpt of the Regulation is as under:

"52 Billing and Payment of Charges

……………..

52.4 In case the payment of bills is delayed beyond a period of two (2) months from the date of billing, a late payment surcharge at the rate of 1.25 per cent per month shall be allowed to be levied by the Generating Company." (Emphasis added)

6.5.6.5 On 08.12.2015, the Hon'ble Commission notified the MERC MYT Regulations, 2015. As per the Regulation 36.1 of MERC MYT Regulations 2019, the due date of bill was revised from 60 days to 30 days from the date of billing. The relevant excerpt of the Regulation is as under:

"36. Delayed Payment Charge and Interest on Delayed Payment—

36.1 In case the payment of bills of generation Tariff or transmission charges or MSLDC Fees and Charges by the Beneficiary is delayed beyond a period of

> ***30 days from the date of billing,*** *Delayed Payment Charge at the rate of 1.25% per month on the billed amount shall be levied for the period of delay by the Generating Company or the Transmission Licensee or MSLDC, as the case may be, notwithstanding anything to the contrary as may have been stipulated in the Agreement or Arrangement with the Beneficiaries."* ***(Emphasis added)***

6.5.6.6 In view of revision in 'due date' from 60 days to 30 days through MERC (MYT) Regulations 2015, the Petitioner has conveyed this change through Board meeting and decision is recorded through Board Resolution and subsequently communicated to MSEDCL vide letter dated 29.06.2018 for amendment to PPA for incorporating the change in due date in line with provisions of MERC (MYT) Regulations 2015.

6.5.6.7 Subsequently on 01.08.2019, the Hon'ble Commission notified the MERC MYT Regulations, 2019. As per the Regulation 37.1 of MERC MYT Regulations 2019, the due date of bill is 30 days from the date of billing. The relevant excerpt is provided below:

> *"37 Delayed Payment Charge and Interest on Delayed Payment*
>
> ***37.1 In case the payment of bills of generation Tariff or transmission charges or MSLDC Fees and Charges by the Beneficiary is delayed beyond a period of 30 days from the date of billing,*** *Delayed Payment Charge on simple interest basis at the Base Rate as on 1st of the respective month plus 350 basis points per annum on the billed amount shall be levied for the period of delay by the Generating Company or the Transmission Licensee or MSLDC, as the case may be, notwithstanding anything to the contrary as may have been stipulated in the Agreement or Arrangement with the Beneficiaries"* ***(Emphasis added)***

6.5.6.8 Above is the applicable due date and receivables allowed as per the relevant MERC (MYT) Regulations since the date of PPA. On notification of MERC (MYT) (Second Amendment) Regulation 2023 on 08.06.2023, MSEDCL has repeatedly expressed their interpretation of due date as 60 days from date of invoice and withheld the release of payments against Petitioner's energy bills.

6.5.6.9 The Petitioner further submits that aforementioned Amendments interpret due date as 60 days from the date of billing, as earlier PPA provides for due date of 60 days from the date of billing. However, Regulation 32.1 of MERC (MYT) Regulations 2019 which provides for the interest on working capital, wherein working capital requirement mentioned receivable of 45 days. The relevant excerpt of the regulations is as under:

> *"32 Interest on Working Capital*
>
> *32.1 Generation*

(a) In case of coal based/lignite-fired Generating Stations, working capital shall cover:

(i) Cost of coal or lignite and limestone towards stock, if applicable, for fifteen days for pit-head Generating Stations and thirty days for non-pithead Generating Stations, for generation corresponding to target availability, or the maximum coal/lignite stock storage capacity,

whichever is lower;

(ii) Cost of coal or lignite and limestone for thirty days for generation corresponding to target availability;

(iii) Cost of secondary fuel oil for two months corresponding to target availability;

(iv) Normative Operation and Maintenance expenses for one month;

(v) Maintenance spares at one per cent of the opening Gross Fixed

Assets for the Year; and

***(vi) Receivables for sale of electricity equivalent to forty-five days of the sum of annual fixed charges and energy charges** approved in the Tariff Order for ensuing year/s, computed at target availability and excluding incentive, if any:*

minus

(vii) Payables for fuel (including oil and secondary fuel oil) to the extent of thirty days of the cost of fuel computed at target availability, depending on the modalities of payment:” ***(Emphasis added)***

6.5.6.10 The Petitioner submits that the interpretation of due date of 60 days from the date of billing creates contravention with provision of specifically of interest on working capital of MERC (MYT) Regulations 2019, as working capital requirement is being calculated considering 45 days of receivables

6.5.6.11 In light of the above, the Petitioner respectfully submits that the Hon'ble Commission may kindly consider the number of days of receivables as 75 days, in accordance with the due date of 60 days stipulated under the Second Amendment of the MERC MYT Regulations, 2019 and an additional 15 days considering the period from coal utilization for generation of electricity to the date of raising of invoices (1st date of the subsequent month) for supply of electricity to MSEDCL.

6.5.6.12 Further, Regulation 32.1 (f) of MERC (MYT) Regulations, 2019 provides that for the calculation of normative interest on working capital, rate of interest on working capital shall be on normative basis and shall be equal to the Base Rate as on the date on which the Petition for determination of Tariff is filed, plus 150 basis points. Further, Regulation 32.1 (f) of MERC (MYT) Regulations 2019 also provides that for the purpose of Truing up for any year, IoWC shall be allowed at a rate equal to the weighted average Base Rate prevailing during the concerned Year plus 150 basis points. In view of this, in the present Petition, Tariff for FY 2024-25 is filed and not final true up. Hence, the petitioner has considered the SBI MCLR rate applicable as on 31.07.2025, i.e. 9% plus 1.5% and accordingly, IoWC is claimed by the Petitioner considering IOWC rate of 10.5%.

6.5.6.13 Considering above provisions, the Petitioner request the Hon'ble Commission to approve the interest on working capital for FY 2024-25 worked out below. The detail working of the same has been provided in the form 2.4 of the tariff formats attached along with this Petition.

Table 40: Interest on working capital for FY 2024-25 (Rs. Crore)

Particulars	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
Cost of Coal for 1 month	130.44	8.16
Cost of Fuel Stock for 1 month	130.44	8.16
Cost of Fuel Oil for 2 month	2.38	0.15
O&M expenses for 1 month	9.37	1.28
Maintenance Spares (1% of Op. GFA)	49.73	58.36
Receivables for 75 days	314.05	45.41
Payables for 1 month	-	0.08
Total Working Capital Requirement	**636.41**	**121.45**
Rate of IoWC	10.35%	10.50%
Normative Interest on Working Capital	**10.83**	**12.75**

6.5.7 Return on Equity

6.5.7.1 The Petitioner submits that out of capitalisation of Rs.5812.38 Crore as on CoD, equity contribution received from the GoM is Rs.858 Crore, which worked out to 16.13% of total capitalisation as discussed in foregoing section of this Petition. In case of additional capitalisation post COD, the Petitioner has considered debt equity ratio of 80:20. Hence, for FY 2024-25 equity amount worked out to Rs.862.74 Crore (Rs.858 Crore + 20% of add cap of Rs.23.68 Cr post COD during FY 2024-25). It is further to submit that apart from the Equity received of Rs.858 Crore from GoM as on CoD, the request for additional equity of Rs.412 Crore has been submitted before GoM vide letter dated 18.01.2024. However, approval of GoM for additional equity and actual receipt of equity is pending as on date. The relevant letter submitted to GoM is annexed to this Petition as **Annexure-15**.

6.5.7.2 Base Return on Equity for FY 2024-25 is computed as per the Regulation 29.2 of MERC (MYT) Regulation, 2019 at 14% on the addition of equity and considering that the CoD is w.e.f. 22.02.2025, Return on equity for FY 2024-25 computed for 38 days.

6.5.7.3 The Petitioner submits that the additional Return on Equity (RoE) linked to ramp rate and Mean Time Between Failure (MTBF), as stipulated under Regulation 29.6

of the MERC (MYT) Regulations, 2019, shall be considered at the time of the final True-Up for FY 2024-25. In accordance with the said regulation, an additional RoE of 0.25% is admissible for every incremental ramp rate of 0.10% per minute achieved over and above the normative ramp rate of 1% per minute, subject to a maximum additional RoE of 0.50%.

6.5.7.4 MSPGCL has requested SLDC to provide certification for achieved Ramp rate for FY 24-25. Considering that the unit is generally achieving the basic ramp rate and managing actual generation as per the schedule changes, MSPGCL is claiming additional RoE for achieving required ramp rate performance.

6.5.7.5 The copy of the said letter is annexed **as Annexure-16.** Accordingly, for the purpose of tariff determination in the present Petition, the RoE has been computed at 14.50% (comprising a base RoE of 14% and an additional 0.50% linked to ramp rate). The balance additional RoE of 1% shall be claimed at the time of the True-Up. Accordingly, the total RoE for FY 2024-25 has been computed as detailed in the table below. The Petitioner prays that the Hon'ble Commission may be pleased to approve the same for the purpose of tariff determination for FY 2024-25:

Table 41: Return on Equity for 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
Regulatory Equity at the beginning of the year	Rs. Crore	994.68	-
Equity portion of capitalisation during the year	Rs. Crore	1,492.02	862.74
Regulatory Equity at the end of the year	Rs. Crore	2,486.70	862.74
Pretax Return on Equity after considering effective Tax rate	%	14.00%	14.50%
Return on Regulatory Equity at the beginning of the year	**Rs. Crore**	**139.26**	**-**
Return on Regulatory Equity addition during the year	**Rs. Crore**	**104.44**	**13.02**
Total Return on Equity	**Rs. Crore**	**243.70**	**13.02**

6.5.8 Income Tax

6.5.8.1 The Petitioner submits that income tax for the regulated business shall be allowed on Return on Equity. The base rate of RoE shall be grossed up with effective tax rate and effective tax rate shall be considered based on the actual income tax paid. In view of this, there was no income tax paid during FY 2022-23 and FY 2023-24; hence, no income tax has been currently proposed for FY 2024-25. In view of this, grossed pretax RoE considering zero income tax calculated as 14.50%.

Table 42: Income Tax for FY 2024-25 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Actual
Income Tax Paid	Rs. Crore	-	-

6.5.9 Non-Tariff Income (NTI)

6.5.9.1 For tariff determination, the Petitioner has considered Non-Tariff Income (NTI) of Rs.0.10 Crore for Bhusawal Unit 6 in the present Petition, based on the actual (un-audited) non-tariff income. However, the Petitioner respectfully submits that the actual NTI will be claimed at the time of final True up for FY 2024-25.

6.5.9.2 The breakup of NTI for FY 2024-25 is provided as under:

Table 43: NTI for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Sr. No.	Particulars	FY 2024-25	
		Provisional Order	April-March
		(a)	(b)
1	Income from Rents of land or buildings	-	0.00
2	Income from sale of rejected coal	-	0.08
3	Income from Rental from staff quarters	-	0.01
4	Income from Rental from contractors	-	0.01
5	Total	-	0.10

6.5.10 Annual Fixed Cost (AFC) entitlement

6.5.10.1 The Petitioner is filing this Petition for tariff determination considering the actual capitalisation as on COD and additional capitalisation post COD during FY 2024-25, 22.02.2025 to 31.03.2025 and its associated ARR elements along with actual/normative O&M expenses. Following table, summarise the AFC calculations for FY 2024-25 (for 38 days):

Table 44: AFC entitlement for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	UoM	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative
O&M Charges	Rs. Crore	18.74	12.73
Water Charges	Rs. Crore		0.39
Additional O&M Charges - ECS	Rs. Crore	-	-
Depreciation	Rs. Crore	43.17	31.36
Interest on Loan	Rs. Crore	59.87	47.99
Interest on Loan - HO Assets	Rs. Crore	-	-
Interest on WC	Rs. Crore	10.83	12.75
Interest on WC - ECS	Rs. Crore	-	-
Income tax	Rs. Crore	-	-
Return on Equity	Rs. Crore	243.70	13.02
Other expneses	Rs. Crore	-	2.68
Less: Non-Tariff Income	Rs. Crore	-	0.10
Total AFC	Rs. Crore	**376.31**	**120.84**

6.6 Summary of Fixed Charges & Energy Charges

6.6.1.1 As per component wise charges discussed for FY 2024-25 in forgoing sections, the following table summarizes the Fixed and Energy Charges for FY 2024-25:

Table 45: Total ARR for final Tariff of Bhusawal U# 6 for FY 2024-25 (Rs. Crore)

Particulars	Approved in provisional Tariff Order (Case No. 236 of 2023)	Normative	Actual
O&M Charges	18.74	12.73	10.10
Water Charges	-	0.39	0.39
Depreciation	43.17	31.36	31.36
Interest on Loan	59.87	47.99	47.99
Interest on Loan - HO Assets	-	-	-
Interest on WC	10.83	12.75	12.75
Other expenses	-	2.68	2.68
Return on Equity	243.70	13.02	13.02
Less: NTI	-	0.10	0.10
Total AFC	**376.31**	**120.84**	**118.21**
Fuel Cost	263.25	100.15	126.19
Fuel Cost - ECS	-	-	-
Total ARR entitled for Tariff	**639.56**	**220.99**	**244.40**

6.6.1.2 As per actual fuel expenses incurred based on the actual fuel utilised during FY 2024-25 post COD, the variable charges computed for Bhusawal Unit 6 for FY 2024-25 are tabulated as under:

Table 46: Fuel cost for FY 2024-25 for Bhusawal Unit 6 (Rs. Crore)

Particulars	Normative	Actual
Variable Cost - Fuel (Coal and Secondary Oil)	100.15	126.19

6.6.1.3 The Petitioner request the Hon'ble Commission to approve provisional fixed charges and variable cost rate as tabulated above for FY 2024-25 of Bhusawal Unit 6 for supply of power to MSEDCL.

6.6.1.4 The detailed working model for tariff calculation of Bhusawal unit 6 for FY 2024-25 is attached as **Annexure-1** to this Petition.

7 Provisional True Up of FY 2024-25

7.1.1.1 Based on the capital cost as on CoD submitted in the present Petition, the tariff (AFC and variable charges) for Bhusawal Unit 6 for FY 2024-25 has been calculated in the previous section of this Petition. In accordance with Regulation 5.1 of the MERC (MYT) Regulations, 2024, the Petitioner is required to file a MYT Petition covering the provisional True-Up for FY 2024-25 along with the Aggregate Revenue Requirement (ARR) for each year of the 5th MYT Control Period.

7.1.1.2 Accordingly, the Petitioner respectfully submits that, considering the CoD as 22.02.2025, it has provided the actual generation, expenses, and revenue data for the period from 22.02.2025 to 31.03.2025, for the purpose of tariff determination for FY 2024-25, as detailed in the earlier section. The ARR claim has been computed based on normative principles as per the applicable regulations. In light of this, the Petitioner humbly requests the Hon'ble Commission to consider this submission as part of the provisional True-Up for FY 2024-25, given that the tariff determination for the said year is being undertaken in the current Petition and the due date for filing the provisional True-Up, as per Regulation 5.1 of MERC (MYT) Regulations, 2024, was 01.11.2024.

7.1.1.3 In view of above, the summary of ARR and provisional True Up for FY 2024-25 is provided in table below:

Table 47: Provisional True up for FY 2024-25

Particulars	Provisional true-up (Normative)	Actual
Expenses side summary		
Return on Equity	13.02	13.02
Interest on Loan	47.99	47.99
Depreciation	31.36	31.36
O&M expenses	11.87	9.23
Pay Revision	0.87	0.87
Wage Revision		
Water Charges	0.39	0.39
Other Charges	2.68	2.68
Interest on Working Capital	12.75	12.75
Less: Non-Tariff Income	0.10	0.10
Annual Fixed Charges (A)	**120.84**	**118.21**
Fuel Cost (B)	100.15	126.19
Aggregate Revenue Requirement (C=A+B)	**220.99**	**244.40**
Revenue from sale of power (D)	158.23	158.23
Revenue Gap/(Surplus) (E=C-D)	**62.77**	**86.17**

7.1.1.4 Considering the ARR based on the capital cost as on CoD and actual revenue from sale of power billed during FY 2024-25 of Bhusawal Unit 6, the Petitioner request the Hon'ble Commission to approve the revenue gap of Rs.62.77 Crore and allow the recovery of revenue gap for FY 2024-25 as per provisional True Up through with immediate effect through issuance of Order in response to this Petition.

8 Key challenges in the MYT Period

8.1 Treatment of Expense towards Flexible Operation:

8.1.1.1 **Flexibility:** The term and concept of power system flexibility has evolved over time to reflect the way technology and power markets have evolved. The term was first introduced in IEA (2008) as: *"…The ability to operate reliably with significant shares of variable renewable electricity."*

A more specific definition was put forward in IEA (2011): *"the extent to which a power system can modify electricity production or consumption in response to variability, expected or otherwise. In other words, it expresses the capability of a power system to maintain reliable supply in the face of rapid and large imbalances, whatever the cause."*

EPRI, the Electric Power Research Institute, defined flexibility in 2016 as: *"the ability to adapt to dynamic and changing conditions, for example, balancing supply and demand by the hour or minute, or deploying new generation and transmission resources over a period of years."*.

8.1.1.2 **Flexibilization Cost**: The recurring costs incurred by the unit for running the unit on flexible operation modes (Variable cost) and the costs/investments incurred by the unit for enhancing the flexibilization capability of the unit (CAPEX) together are the flexibilization costs. The increase variable costs are incurred by the units on flexible operation due to the deterioration of efficiency, SHR, equipment life consumption, increased O&M expenses, extra oil consumption and decreased reliability (increase in outages & tube leakages (BTL)). Start-up and shutdown operations are the most expensive mode of operation because of additional life consumption of components, extra primary and secondary fuel consumption, chemical consumption and DSM charges, besides other costs such as manpower training & preparedness for operations as well as plant maintenance.

8.1.1.3 The coal-based conventional power plants in India are being subjected to increased flexible operation- frequent load following, lowering the minimum loads and frequent start-stops. Many of the Indian power utilities are facing with increased O&M costs, increased EFOR (Equivalent Forced outage Rates), and other operational costs. There are ample incidents of repeat failures in the flexibilization of units. It is important to understand that flexible operation introduces new type of damages not seen in base loading units and these damages get accumulated continuously and may not be visible or be difficult to estimate until damages have happened together with loss of reliability, availability and in the extreme case loss of property and life. By the time symptoms of the accumulated damage are visible it may have become very costly to correct. Even the most conservative approach will increase plant O&M costs along with per MW variable costs. However, those plants that can operate flexibly to meet market conditions while minimizing the financial impact of operating in this environment, will continue to be dispatched, at least for the near future. Operations for Flexible Operations requires a holistic perspective of the entire plant to avoid unintended consequences. The costs due to flexibilisation can be minimized to certain extent with correct operational practices, manpower training, modern tools & techniques and increased awareness of the cost implications of damages. The key factors influence the cost of Flexibilisation are Coal quality, consistency of coal quality, Water chemistry management, Vintage - remaining creep & fatigue life of components, Design of the unit (material used, thickness, design of components), Maintenance philosophy, Operational practices and operational capability of operator, Level of automation/C&I systems, Lay-up practices, extend of cyclic operation -depth, breadth & frequency of flexible support provided. The flexibilization costs depend on the market context.

Factors	**Parameters**
Energy Charges	Start-up cost increases due to increase in ▪ Heat Rate ▪ APC ▪ Oil support
O&M Cost	• Increased EFOR (Equivalent Forced outage Rates) • Accelerated life consumption due to Start-ups & Load
Fixed cost	• Accelerated life consumption will have impact over unit availability in long-term • EFOR (Equivalent Forced Outage rate) can impact unit availability in short-term • Increased Fixed Costs per unit with lower online hours
Other Costs	Increased consumption of Water, Chemicals-online & offline dosing, DSM Charges, impact on environment compliance equipment’s

8.1.1.4 The Petitioner respectfully submits that the CEA has issued CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023 mandating coal-fired power plants to adopt flexible operations in response to fluctuating demand and the growing integration of renewable energy sources.

8.1.1.5 Following are the operational challenges in flexibilization of thermal units:

- Flame instability due to high coal quality variations in domestic coal (High Ash, Low VM in Indian Coal).
- Parametric Excursions
- May lead to increased Boiler Tube leakage (BTL)
- LP turbine fluttering & may lead to LP blade failure.
- Emission issues (Excess with respect to norms)
- Duct Ash Accumulation and duct erosion
- High Oil Consumption
- Electrical Issues- Generator Break-downs
- Fireball shifting and clinking
- Increased start up and shutdown of auxiliaries (coal mill, Motor-Driven Boiler Feed Pump [MDBFP], Air Cycle equipment's etc)

8.1.1.6 Further, the Petitioner most respectfully submits that Flexible Operation would require detailed planning and damage mitigation measures for high Reliability. Following are the area wise challenges and necessary mitigation measures to address the said challenges:

Area	**Challenges**	**Mitigation Measures**
Boiler	• Temperature Variations leading to High BTL • Poor Combustion (Reliability Issue, Higher Risk, Efficiency Issues) • Coal Pipe Chocking & Duct Ash Accumulation • High FEGT • Economiser Steaming • High Ash deposition in ducts.	• Tuning Group at CC & Site • Dry air preservation to prevent tube pitting during S/D • Timely Overhauls. • Combustion health monitoring- Mills testing and POG formation • Design Modifications (Reg, Attachment modifications as per EPRI guidelines) • Modifying sliding pressure curves. • Adoption of latest tests, techniques and procedures (RFET, AET, Exfoliation, Thermal Flow, Thermovision test) • Maintaining Strict Chemistry monitoring
Turbine	• High Vibration of Rotor Train. • Increased Ovality & Decreasing hardness of Casings.	• RLA- 6 Yrs (15). Replacement of casings & rotor in 15 yrs (25) • Frequent inspection 2 yrs (4), MPI- In-situ PAUT 2 yrs (4)

Area	Challenges	Mitigation Measures
	• LPT last stage blade erosion & flutter increasing failure chances. • Wear and tear on valves due to severe throttling • Turbine Rotor, Casing, and Valve body cracking • Low load deposition on turbine due to steam purity issue • Less Motive power for TDBFP from main source and control issues	• Turbine Bearings inspection in every 2 yrs (4) • More frequent replacement of casings, rotors • Maintain steam/Water Chemistry
Operations	• Soot blowing difficulty, Need > 70% load for 3 hr in a day • Flame disturbance tripping on Coal Quality variations • Higher chances of outage due to single Aux Eqp approach. • Chemistry parameter variation (PH, Conductivity, DO etc) • Unit Comes to wet mode in TM operation and comes out of CMC.	• Review of Operational Practices and Formation of SOPs. • Oil support during soot blowing at lower load. • Review of sliding pressure curve. • BFP recirculation valve changed to inching type • Comprehensive SOP to avoid flame failure at part load. • Adoption of new technology like Mill scheduler etc • Enhancing the competency of Desk engineers. • Healthiness of Runback Systems.
Controls	• Achieving load ramping in the entire range with minimum parametric variations. • Additional requirements like AGC, FGMO / PFR	• Loop Tuning • Interventions through Policy advocacy for changes in procedures

8.1.1.7 While this regulatory move is crucial for ensuring grid stability, it introduces significant operational complexities for MSPGCL. Implementing flexible operations will necessitate substantial investments in new technology, equipment upgrades, and the training of personnel to enable the rapid ramping up and down of plant operations. The key challenge lies in the regulatory and financial treatment of the costs associated with these flexible operations. It has been noted in the “Roadmap for flexibilisation of Thermal Generating Units (by CEA)” that flexibilisation has economic impact for supercritical unit with degradation of heat rate between 7% to

15% and increased in O&M cost upto 20% with potential threat for increase in oil consumption. The Resultant impact on tariff is up to rise in variable cost by 15% at 40% loading. The study recommends, need to establish compensation mechanism to cover the CAPEX and OPEX. The key interventions identified for flexibilisation of operations are changes in operational practices for existing plants (requires Training & hands on experience, live learning, practice on simulator etc), Optimisation of Control and equipment, adopting the practice for operation of HP/LP bypass periodically which leads to loss of efficiency, Flexibility retrofit investments (CAPEX), Efficiency retrofit investment (CAPEX).

8.1.1.8 Cost comparison of coal fired unit flexibilization with battery storage reveals that battery storage system cost is Rs. 4.5 Cr/MW and have life span of 9-10 years with risk of disposal of battery system after lifespan. Whereas coal flexibilization with CAPEX and OPEX shall be cheaper and has longer lifespan.

8.2 Request for provision to submit revised ARR requirement to Beneficiary Distribution Licensees:

8.2.1.1 Under the Regulation 5 (Petitions to be filed in the Control Period) of the MERC (MYT) Regulations, 2024, only Distribution licensees are allowed to file Mid Term Review petition covering Truing-up for FY 2024-25, FY 2025-26 and FY 2026-27; Provisional Truing-up for FY 2027-28 and Revised forecast of Aggregate Revenue Requirement, expected revenue from existing Tariff and charges, expected revenue gap, and proposed category-wise Tariff for the fourth and fifth year of the Control Period.

8.2.1.2 For Generating Companies, a single Truing-up Petition is to be filed at the end of the Control Period. However, considering the potential for significant cost implications, both related to O&M expenses and financing costs, arising from major capital expenditures on schemes such as flexibilization or emission control systems, if additional expenditures are required, it is essential to establish a mechanism through which the Generating Companies can submit cost implications of such schemes so as to ensure timely recovery of such costs.

8.3 Petitioner's Submission

8.3.1.1 In light of the submission with respect to flexible operation, the Petitioner submits that Bhusawal Unit 6 has been established based on the ordering of the equipment provided and requirement of flexible operation as per CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023 has been received thereafter. Hence, the Bhusawal unit 6 requires necessary retrofitting in order to be compatible for the flexible operation.

8.3.1.2 The Petitioner most respectfully submits that the MERC (MYT) Regulations 2024 do not provide clear guidance on how these expenses will be accounted for, creating uncertainty about MSPGCL's ability to recover the costs incurred in complying with the CEA Regulations regarding flexible operation norms. This ambiguity creates a challenging situation for MSPGCL, as it is required to adhere to the new standards without clarity on financial recovery. In this regard, the Petitioner request the Hon'ble Commission to provide the clarity on the recovery of such expenditure required towards flexible operation for Bhusawal Unit 6.

8.3.1.3 Further, the Petitioner respectfully requests that, if Generating Companies are not permitted to file a Mid-Term Review Petition, the Hon'ble Commission may direct Distribution Licensees to obtain data on significant cost implications from their contracted Generating Companies when filing their Mid-Term Review Petitions. Alternatively, Generating Companies may be included as Respondent parties in the Mid-Term Review Petitions filed by Distribution Licensees, enabling them to submit any additional claims, if applicable.

9 Fuel Utilisation plan of Bhusawal Unit 6 for 5th MYT Control period

9.1 Background

9.1.1.1 The Petitioner respectfully submits that in accordance with the MERC MYT Regulations 2024, the Generating Company is required to prepare and submit its Fuel Utilisation Plan for the Control Period commencing on April 1, 2025, along with the Petition for determination of Tariff for the Control Period from April 1, 2025 to March 31, 2030, in accordance with Part A of these Regulations, to the Hon'ble Commission for approval.

9.1.1.2 Furthermore, as per the Regulation 40, the Fuel Utilisation Plan (FUP) should ensure that fuel quantum is allocated to different generating stations or units in accordance with the merit order of different generation stations or units in terms of variable cost. The relevant excerpt of the regulations is provided below for ease of reference:

"40.1 The Generating Company shall prepare and submit Fuel Utilisation Plan for the Control Period commencing on April 1, 2025, along with the Petition for determination of Tariff for the Control Period from April 1, 2025 to March 31, 2030, in accordance with Part A of these Regulations, to the Commission for approval.

40.2 The Fuel Utilisation Plan should ensure that fuel quantum is allocated to different generating Stations/Units in accordance with the merit order of different generation Stations/Units in terms of variable cost:

Provided that the fuel allocation should be such that, subject to system and other constraints, the least cost generating Stations/Units are operated at maximum availability and other generating Stations/Units are operated at maximum availability thereafter in the ascending order of variable cost.

40.3 The Fuel Utilisation Plan shall comprise the following:

(a) Forecast of fuel requirement for each unit/station;

(b) Details of contracted source, annual contracted quantity, estimated availability from contracted sources and resultant shortage of fuel, if any, for each unit/station;

(c) Use of optimum mix of fuel;

(d) Alternate arrangement for meeting shortage of fuel along with impact on variable cost of unit/station;

(e) Plan for swapping of fuel source for optimising the cost, if any, along with detailed justification and cost savings;

(f) Net cost savings in variable cost of each unit, if any, after optimum utilisation of Fuel:

Provided that the forecast or estimates for the Control Period from FY 2025-26 to FY 2029-30 shall be prepared for each month over the Control Period:

Provided further that Fuel Utilisation Plan shall be prepared based on past data and reasonable assumptions for future."

9.1.1.3 Further, as per MERC MYT Regulations 2024, the Generating Company shall analyse the Actual Fuel Utilization vs. approved Fuel Utilization Plan. The relevant excerpt is reproduced below for ready reference:

"40.7 At time of truing up of respective year, the Commission shall scrutinise the implementation of actual Fuel Utilisation Plan vis-à-vis approved plan, deviations, if any, and justification submitted by a Generating Company thereon and; may disallow the variable cost of generation on account of operational inefficiencies in utilisation of fuel."

9.1.1.4 In view of above provisions, the Petitioner submits that FUP for all stations of MSPGCL except Bhusawal Unit 6 has already been approved by the Hon'ble Commission in MYT Order (Case No. 187 of 2024). Therefore, the Fuel Utilisation Plan for Bhusawal Unit 6 has been prepared as per FSA signed for Bhusawal TPS and it has been proposed to utilise the coal strategically to make the ECR of Bhusawal Unit 6 schedulable as per MoD. The Petitioner submits that FUP for Bhusawal Unit 6 is being submitted for the approval of the Hon'ble Commission in this Petition.

9.2 Proposed Utilisation of coal for 5th MYT Control Period for Bhusawal Unit 6

9.2.1 Available coal linkage for FY 2025-26 to FY 2029-30

9.2.1.1 Considering GCV of 3400 kCal/kg on 'As received' basis and normative SHR of 2139 kCal/kWh, the coal requirement for Bhusawal Unit 6 worked out to ~ 3.19 MMTPA to attain the normative availability and PLF.

Raw Coal:

9.2.1.2 The Petitioner has signed an MoU with WCL FSA (Notified/Mine Specific Sources) for supply of coal for Bhusawal Unit 6 and actual supply against the said FSA started from the date of CoD.

9.2.1.3 Out of the total quantum of FSA of 2.863 MMT, WCL shall supply 0.85 MMT from Kolarpimpri mine, 1.146 MMT from mine specific sources and balance 0.867 MMT shall supply from Waghoda coal mine. However, supply from Waghoda coal mine is expected from FY2027-28.

9.2.1.4 The initiative by MSPGCL to implement the Rail-Sea-Rail (RSR) movement of coal, as directed by the Ministry of Power (MoP) and Ministry of Coal (MoC) has been a significant logistical step. The Petitioner initially signed contract agreements with M/s GCMPL for the same and transported 6.38 lakh metric tonnes of raw/washed coal on trial basis from Mahanadi Coalfields Limited (MCL) in Odisha to Nashik TPS and Bhusawal TPS. The process involves rail transport from Talcher (MCL) to Paradip Port (East Coast), sea transport from Paradip to Dharamtar Port (West Coast), and rail transport again from Dharamtar to the respective TPSs.

9.2.1.5 Key developments in this RSR coal movement include:

a) **Improvement in Coal Quality:** The coal delivered via the RSR route was G-12 grade, with no observed grade slippage as compared to loading end even though the GCV loss of 300 kCal/kg is allowed in terms of contract and better-sized coal enhanced unloading and handling processes at the TPSs.

b) **Performance Improvements**: RSR coal helped to manage coal stock position both at BTPS & NTPS and promoted better coal management. Technical and financial performance improvements in BTPS after using MCL coal received through RSR, including higher PLF, improved load-ability, reduction in secondary fuel oil consumption (SFOC) and lower auxiliary power consumption. The blending of RSR coal with dry coal further optimized these benefits.

c) **Logistical Scaling and Planning**: As per Minutes of 753rd meeting of the Sub-Group (Gencos) constituted by Infrastructure Constraints Review Committee to look into the issues of critical power houses, assigned MSPGCL 1.5 rakes per day for the RSR mode. The MoP, aiming to relieve logistical pressure on the railways and promote coastal coal transport, also encouraged transporting upto 10-15% of coal through the RSR route.

9.2.1.6 Considering the above, sourcing of 1.92 MMTPA of coal from the Talcher area of MCL through the RSR route has considered for the Bhusawal Thermal Power stations (BTPS) U6 along with BTPS Unit 3,4 and NTPS U3-5 stations for the MYT projections for the period till FY2029-30 as it will ensure a steady supply of coal and help in building adequate coal stock for the power plants. In view of this, MCL RSR Coal quantity of 0.5 MMT is considered for BTPS Unit 6 with GCV 'As received' basis of 3508 kCal/kg.

Imported coal:

9.2.1.7 MoP vide letter dated 27.06.2024, revised the coal blending advisory and directed to maintain 4% blending (by weight) for period 01.07.2024 to 15.10.2024. The decision of use of imported coal for blending was implemented to address high demand and low hydro generation, was extended to ensure uninterrupted power supply during the summer months and was reviewed in June 2024. However, presently, there is no such advisory issued by the MoP for usage of imported coal. However, even during FY 25-26, there were contracts of imported coal procurement ongoing. Hence, the Petitioner most respectfully submits that in order to honour these ongoing contracts and in order to ensure the availability of sufficient coal to achieve the normative availability factor of 85% of Bhusawal Unit

6, Petitioner has under gone to usage of imported coal of 0.12 MMT for FY 2025-26. In the absence of any prevailing advisory issued by the Hon'ble Ministry of Power mandating the usage of imported coal, the Petitioner has not considered imported coal in the Fuel Utilisation Plan for the period FY 2026-27 to FY 2029-30. Instead, the Petitioner has considered meeting the coal requirement from the identified mine-specific domestic coal sources by optimally utilising the coal flexibility mechanism permitted by the Hon'ble Ministry of Power across the generating stations of MSPGCL.

Use of Biomass Pellets:

9.2.1.8 The Petitioner also has a mandate for usage of biomass pellets in the stations based on the directives from the Government of India. As per GoI, MoP notification F.No.11/86/2017-Th-II (C.NO. 238797) dated 16.06.2023 **(Annexure-17)** on revised policy for Biomass utilization for power Generation through Co-firing in coal-based power plants which says:

> *'All coal based thermal power plants of power generation utilities with bowl mills, shall on annual basis mandatorily use minimum 5% blend of biomass pellets made, primarily, of agro residue along with coal with effect from FY 2024-25. The obligation shall increase to 7% with effect from FY 2025-26'*

Based on the mandate for Biomass utilization as per the policy above, following quantities of pellet requirement are estimated against Board Resolution considering 7% of raw coal consumed as per past data:

Table 48: Annual Pellet requirement for Bhusawal unit 6 (MT)

TPS	Daily Pellet Requirement (MT)	Annual pellet requirement (MT)
Bhusawal Unit 6	444	107858

9.2.1.9 Status of pellet procurement for Bhusawal TPS is as follows:

a) Procurement of Non-Torrefied Biomass Pellets Tender is refloated on 30.04.2024 for the procurement of 850 TPD (2,07,258 MT per year) of Non-Torrefied Biomass Pellets for Bhusawal TPS for (3+1) year. Technical Bid is opened on-date 09.07.2024, total 18 bids, out of which 14 bidders qualified after scrutiny for price bid opening. Price bid is opened on 07.02.2025. Bhusawal tender L1 derived rate is Rs 8427/MT. The LOAs are issued to 11 nos. bidders. However, as on date supply of biomass pellets are not commenced at Bhusawal TPS and it is anticipated that supply shall commence post monsoon.

The relevant LoA issued to the biomass pellets suppliers are annexed to this Petition as **Annexure-18.**

9.2.1.10 Considering the above, the Petitioner submits that, given the uncertainty in the availability and consistent supply of biomass pellets, the Petitioner has not currently included biomass pellets in its fuel mix. However, MSPGCL is actively making efforts to procure pellets and utilize them in its power stations to comply with the MoP guidelines. In case of usage of pellets in the 5^{th} MYT period, MSPGCL may be allowed to submit the claims towards such usage as part of the relevant period FAC computations, as and when the pellets are used.

9.2.1.11 Further, by the time of filing of the present Petition, FY 2025-26 has already concluded. Accordingly, the Petitioner respectfully submits that, for the purpose of projecting the Fuel Utilisation Plan (FUP) for the MYT Control Period, the coal requirement for FY 2025-26 has been considered based on the actual quantity of coal received during the said financial year. For the balance MYT Control Period, i.e., FY 2026-27 to FY 2029-30, the Fuel Utilisation Plan has been projected based on the coal quantities envisaged under the respective FSAs and/or MoUs earmarked for Bhusawal Unit 6.

9.2.1.12 Accordingly, following is the coal mix proposed for FY 2025-26 to FY 2029-30.

Table 49: Coal mixed proposed for FY 2025-26 to FY 2029-30 for Bhusawal Unit 6

Source	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
	Actual	Projection	Projection	Projection	Projection
	Qty (MMT)	Qty (MMT)	Qty (MMT)	Qty (MMT)	Qty (MMT)
Total Raw coal	**2.96**	**3.36**	**3.36**	**3.36**	**3.36**
Imported Coal	**0.12**	-	-	-	-
Total (Qty) |Wtd. Average	**3.08**	**3.36**	**3.36**	**3.36**	**3.36**

9.2.1.13 The Petitioner respectfully submit that the Fuel Utilization Plan is prepared based on the previous period actual GCV and Price of the coal which depend upon the station-wise coal receipts from various mines and collieries. The Petitioner notes that while the Fuel Utilization Plan provides a general framework under ideal conditions, in practice, coal usage may need to be adjusted according to real-time requirements and operational challenges. Therefore, the Petitioner may modify its coal usage strategy in the future to accommodate changing circumstances and ensure optimal power generation. Actual fuel utilization for the period FY 2025-26 to FY 2029-30 may differ from the Fuel utilization plan considering the same reasons. The following factors can lead to the variations between the fuel plan submitted and actual fuel utilization for Bhusawal Unit 6:

- Coal availability fluctuations
- Frequent changes in Government directions with stringent timelines for
- implementation.

- Re-declaration of coal grades at mines
- The commencement of new cost-plus mines
- Changes in coal pricing
- Directives for blending imported coal
- Implementation of alternative coal transportation options
- Railway route congestion

9.2.2 Prices and GCV of Fuels and Escalation factor for fuel cost

9.2.2.1 The Petitioner submit that WCL is already supplying coal of 0.85 MMT, to BTPS from Kolarpimpri. Further, the Petitioner submits that coal production from Waghoda coal mine (Quantity 0.867 MMT) is expected from FY 2027-28. Hence, it is submitted that presently instead of coal from Waghoda coal mine, 'cost plus coal' received at BTPS for FY2025-26 has been considered for the projection of MYT from FY 2026-27 to FY 2029-30 of Bhusawal Unit 6. Remaining coal requirement of 1.146 MMT is considered through Mine Specific sources as per mine specific coal received at BTPS during FY 2025-26. MSPGCL is sourcing 1.92 MMT of coal annually through the RSR mode from MCL (Talcher area). For Bhusawal Unit 6, 0.50 MMT of MCL RSR coal with a GCV (ARB) of 3508 kCal/kg is considered.

9.2.2.2 Landed cost of coal received at the Bhusawal Unit 6 from WCL raw coal sources is 4241 Rs/MT and GCV of coal on 'As Received' basis is 3142 kCal/kg during FY 2025-26. Accordingly, for FY2026-27 landed cost of coal considered as 4369 Rs/MT and GCV ARB 3151 kCal/kg.

9.2.2.3 Landed cost of coal received from RSR at the Bhusawal Unit 6 during FY 2025-26 was Rs.5994/MT with GCV of coal on 'As Received' basis of 3508 kCal/kg, based on actual coal receipts. Accordingly, for FY2026-27 the Petitioner has considered landed cost of RSR coal at Rs.6174/MT, after applying an escalation of 3% over the actual landed cost of FY 2025-26, while GCV ARB considered of 3508 kCal/kg. For the subsequent years of the MYT Control Period, the landed cost of coal has been projected by applying a year-on-year escalation of 3%.

9.2.2.4 Further, based on the actual coal received during FY 2025-26, the Petitioner incurred other coal handling charges at the rate of Rs.34.80/MT. Accordingly, for the balance MYT Control Period, i.e., FY 2026-27 to FY 2029-30, the Petitioner has projected the other coal handling charges by applying a year-on-year escalation of 3% y-o-y over the actual charges incurred during FY 2025-26.

9.2.2.5 The overall weighted average price of coal and GCV (ARB) of coal of Rs.4710/MT (including other coal charges) and GCV ARB of 3204 kCal/kg. The same has been considered for the projection of coal cost for FY 2026-27 as 1st year of balance MYT Control Period.

9.2.2.6 In view above consideration, following is the summary of sources of coal, GCV of coal and corresponding price of coal considered for the projection of FY 2025-26 as 1st year of Control period.

Table 50: GCV and price of coal considered for FY 2025-26 to FY 2029-30 for Bhusawal Unit 6

Source	FY 2025-26 as per actuals			For Balance Control Period					
						Landed Cost (Rs./MT)			
	GCV (ARB) (kCal/kg	Qty (MMT)	Landed Cost (Rs./MT)	GCV (ARB) (kCal/kg)	Qty (MMT)	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Total Raw coal	**3202**	**2.96**	**4,527**	**3,204**	**3.36**	**4,637**	**4,776**	**4,920**	**5,067**
Total Raw coal with transit loss of 0.8%						**4,675**	**4,815**	**4,959**	**5,108**
Imported Coal	**4682**	**0.12**	**11,214**		-	-	-	-	-
Total (Qty) |Wtd. Average	**3,260**	**3.08**	**4,792**		**3.36**	**4,675**	**4,815**	**4,959**	**5,108**
Add: Coal handling charges #			34.80			**35.85**	**36.92**	**38.03**	**39.17**
Total Coal price			**4,827**			**4,710**	**4,852**	**4,997**	**5,147**

Note:
1. # Coal handling charges escalated at 3%
2. The YoY Rate of landed cost of coal escalated at 3%

9.2.2.7 Regarding secondary fuel oil consumption, calorific value of oil and price of oil for Bhusawal Unit 6 for MYT Control period considered as approved by the Hon'ble Commission in MYT Order (Case No. 187 of 2024).

Table 51: Assumptions of secondary fuel oil considered for FY 2025-26 for Bhusawal Unit 6

Source	Norm (ml/kWh)	GCV (ARB) (kCal/kg)	Landed Cost (Rs./kl)
Secondary Fuel	0.50	10551.98	56798.98

9.2.2.8 An escalation rate of 3% is applied on coal and secondary fuel oil from FY2025-26 onwards. The SHR for Bhusawal Unit 6 is considered as 2139.05 kCal/kWh. Further, the quantum of coal and GCV of coal considered in order to achieve the availability and PLF at 85% for FY2025-26 to FY2029-30.

9.2.2.9 Considering the y-o-y escalation of 3% on prices of coal and secondary oil, the prices of coal and secondary oil for MYT Control period FY 2025-26 to FY 2029-30 considered as under:

Table 52: Prices of coal considered for FY 2025-26 to FY 2029-30 for Bhusawal Unit 6 (Rs./MT)

Source	Qty	Price of Coal (FY 25-26)	Price incl transit loss and 3%			
	(MMT)		FY 26-27	FY 27-28	FY 28-29	FY 29-30
Raw coal	3.36	4,527	4,675	4,815	4,959	5,108
Imported Coal	-	11,214				
Total	**3.36**		**4,675**	**4,815**	**4,959**	**5,108**

Table 53: Prices of secondary fuel considered for FY 2025-26 to FY 2029-30 for Bhusawal Unit 6

Source	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Secondary Oil (Rs./kl)	56,799	61,800	63,654	65,564	67,531

9.2.3 Relaxation in GCV variations between GCV As Billed (Loading) vis-à-vis GCV ARB unloading

9.2.3.1 The Petitioner submits that GCV considered for the projection of MYT Control period is based on weighted average GCV (ARB) as per actual coal received at Bhusawal Unit 6 during FY 2025-26. However, the Petitioner submits that at the time of True Up of respective years, GCV ARB of coal utilised shall be worked out based on the GCV Billed less relaxation of 750 kCal/kg as specified in Regulation 51.6 of MERC (MYT) Regulations 2024 or actual GCV ARB, whichever is higher for the calculation of normative fuel cost.

10 Rolling Capital Investment Plan for 5th MYT Control Period

10.1.1.1 The Petitioner submits that as per MERC (Approval of Capital Investment Schemes) Regulations, 2022 (hereinafter referred as Capex Regulations 2022), the generating companies are required to submit Rolling Capital Investment plan from FY 2025-26 to FY 2029-30. In view of this, in the present Petition Rolling capital Investment Plan for Bhusawal Unit 6 is being submitted and it is enclosed as **Annexure-19**.

10.1.1.2 As per Regulation 1.3 of Capex Regulations 2022, it shall not be applicable for approval of capital cost of new generating unit/station and for additional capitalisation within the original scope of work of new generating unit/station and it shall be regulated as specified in the MERC (MYT) Regulations 2019, as amended from time to time.

10.1.1.3 Considering the cut-off date of Bhusawal Unit 6 as 29.02.2028, the Petitioner respectfully submits that additional capitalisation required post cut off date towards Reliability improvement schemes are being proposed as allowed as per MERC Capex Regulations 2022 in Rolling capital investment plan of Bhusawal unit 6 for 5th MYT Control period.

10.1.1.4 Further, it is submitted that capitalisations towards FGD and SCR projects are part of original scope of work of Bhusawal Unit 6. Hence, capitalisations towards the same has been considered under additional capitalisation up to cut off date and not considered as part of Rolling capital investment plan. The Petitioner further submits that MSPGCL could not include any scope of flexible operation under Capex Plan as the same is under evolving stage and has made provisional Capex provision separately.

10.1.1.5 Following is the summary of Rolling capital investment plan proposed for Bhusawal Unit 6 for 5th MYT Control Period.

Table 54: Rolling Capital Investment Plan for Bhusawal Unit 6 5th MYT Control Period (Rs. Crore)

S. No	Schemes	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total
1	LP Turbine Rotor Procurement	-	-	0.20	71.00	21.00	**92.20**
2	Cup-lock Scaffolding for Boiler	-	-	-	34.00	73.50	**107.50**
3	Ash Slurry Lines Replacement	-	-	-	13.70	22.20	**35.90**
4	ESP Field Controllers	-	-	0.50	-	23.50	**24.00**
5	Fire Station Building for 660 MW	-	-	7.43	-	0.60	**8.03**
6	DCS, Sensors (Max DNA/SIMENSE), Upgradation	-	-	-	10.50	9.00	**19.50**
7	Buldozer and locomotive spares	-	-	-	-	1.70	**1.70**
8	Alkali regeneration unit Conesep assembly	-	-	-	-	1.65	**1.65**
9	Raising of Ash Bund, Gypsum storage and admin building	-	-	-	11.00	40.00	**51.00**
10	Wagon Tippler Drives, Hydraulic & Chute Upgrades	-	-	-	23.50	30.00	**53.50**
11	**Total Capex Rolling Plan**	**-**	**-**	**8.13**	**163.70**	**223.15**	**394.98**

10.1.1.6 As per the Regulation 7.4 of Capex Regulations 2022, for the first three years of every five-year period shall be concrete plan and no changes shall be made in the same to the extent of new schemes. Hence, the Petitioner has covered the schemes planned for the five years control period. In view of this, considering that capex rolling plan numbers are on higher side; in order to avoid the impact on the tariff of MSPGCL's station and ultimately impact on the consumer's tariff, the Petitioner has considered more optimistic capitalisation for the tariff purpose for the MYT control period. The capitalisation projected for the control period is discussed in detail in subsequent chapter of Capitalisation for MYT control period.

11 MYT for 5th Control Period – FY 2025-26 to FY 2029-30

In this section, the ARR for the 5th Control Period, from FY 2025-26 to FY 2029-30, is computed based on MERC (MYT) Regulations 2024 for Bhusawal Unit 6.

The Petitioner respectfully submits that, since FY 2025-26 has already concluded and the Hon'ble Commission has sought the actual details of fuel cost for the said financial year, the fuel cost for FY 2025-26 presented in this section of the Petition has been considered based on the actual (unaudited) fuel expenditure incurred during the year. However, the Petitioner further submits that all other components of the Aggregate Revenue Requirement (ARR) for FY 2025-26, other than the fuel expense, have been considered on a projected basis in accordance with the provisions of the MERC (Multi Year Tariff) Regulations, 2024.

11.1 Operational Norms for 5th MYT Control period for Bhusawal Unit 6

11.1.1 Availability of Bhusawal Unit 6 for MYT Control Period

11.1.1.1 The target availability for full recovery of Annual fixed charges shall be 85% as per Regulation 47.1 of MERC (MYT) Regulations 2024. Accordingly, based on the coal availability submitted as per Fuel Utilisation Plan submitted in the foregoing section of this Petition, the Petitioner has considered 85% availability of Bhusawal unit 6 for 5th MYT Control Period.

11.1.2 Plant load factor of Bhusawal Unit 6 for MYT Control Period

11.1.2.1 The target Plant Load Factor for incentive for thermal Generating Stations/Units is 85% as per Regulation 47.3 of MERC (MYT) Regulations 2024. In view of this, based on the Fuel Utilisation Plan submitted in forgoing section of this Petition, the Petitioner has considered PLF at 85% for Bhusawal unit 6 for 5th MYT Control Period. However, the Petitioner respectfully submits that the plant shall undergo shutdown for ~45 days for connecting FGD/SCR system and its commissioning. Further, apart from that, for performance of PG test the unit needs a shutdown for 8 days to mount measuring/testing arrangements which has not been accounted in and considered PLF. In view of this, the Petitioner submits that PLF considered above may adversely impacted. Both the outage activities being mandatory in nature hence special dispensation is requested.

11.1.3 Gross Station Heat Rate (GSHR)

11.1.3.1 Following are the technical details of Bhusawal Unit 6 considered in the Petition for determination of tariff for the Control Period:

Table 55: Technical Details for Bhusawal Unit 6

Particulars	Units	Claimed
Capacity (MW)	MW	660
Pressure Rating	kg/cm2	247
SHT/RHT	0C	565/593
Type of Boiler Feed Pump		Turbine Driven
Cooling tower		NDCT
Flue Gas Plant (Wet Lime Stone)		
SCR - Anhydrous Ammonia		
Operational Parameters		
Maximum Turbine Cycle Heat Rate as per MYT Regulations, 2019	kCal/kWh	1850
Minimum Boiler Efficiency as per MYT Regulations, 2019		86%
Guaranteed Turbine Cycle Heat Rate (a)	kCal/kWh	1813.10
Guaranteed Boiler Efficiency (b)	%	89.00%
Design Heat Rate (c=a/b)	kCal/kWh	2037.19
Maximum Design Heat Rate as per MYT Regulations, 2019 (d)	kCal/kWh	2222.00
Allowable Design Heat Rate (e)	kCal/kWh	2037.19
Allowable Gross Station Heat Rate (1.05* Design Heat Rate) (f=e*1.05)	**kCal/kWh**	**2139.05**

11.1.3.2 As per the MERC (MYT) Regulations, 2024, an "Existing Generating Unit/Station" is defined as a generating unit or station declared under commercial operation prior to April 1, 2025. Since Bhusawal Unit 6 achieved its Commercial Operation Date (COD) on 22.02.2025, it qualifies as an existing generating unit. Regulation 47.4 of the MERC (MYT) Regulations, 2024, prescribes a normative Gross Station Heat Rate (GSHR) of 2230 kCal/kWh for existing coal-based generating stations with unit sizes of 600 MW and above. However, the Petitioner most respectfully submits that, although the regulation provides for a GSHR of 2230 kCal/kWh, a lower GSHR of 2139.05 kCal/kWh has been considered for tariff determination of 5th MYT control period, based on the design heat rate of 2037.19 kCal/kWh, as submitted by the Petitioner and approved by the Hon'ble Commission in the provisional Tariff Order (Case No. 236 of 2023) and subsequently approved in MYT Order (Case No. 187 of 2024) for MYT Control Period.

11.1.3.3 In view of the above, the Petitioner respectfully prays that the Gross Station Heat Rate (GSHR) for Bhusawal Unit-6 may be permitted to be revised, based on the unit's actual performance during the current or subsequent MYT Control Period, in accordance with the prevailing Regulations. The Petitioner further submits that the Performance Guarantee (PG) test for the said unit is yet to be concluded, and the outcome of the test may result in changes to the GSHR and auxiliary consumption parameters, subject to demonstration of the PG test and acceptance of its results. The petitioner requests the Hon'ble Commission to allow it to make representation ,required if any, subsequent to PG Test acceptance in case of PG Test accepted results are different from the contracted parameters (especially SHR & APC) are significantly adverse than normative SHR & APC.

11.1.3.4 The Petitioner most respectfully submits that, had the commissioning of Bhusawal Unit-6 been deferred until completion of the PG test, the Commercial Operation Date (CoD) would have been delayed, thereby increasing the Interest During Construction (IDC) burden for the project. Accordingly, commissioning the unit without awaiting the PG test has, in effect, contributed to reducing the overall capital cost of Bhusawal Unit-6.

11.1.4 **Auxiliary Energy Consumption (AEC)**

11.1.4.1 As per Regulations 47.13 of MERC (MYT) Regulations, 2024, Auxiliary energy consumption for new coal based-thermal Generating Stations (with Electrically driven boiler feed pumps) with capacity of 300/330/350/500 MW & above specified as 5.75%. The Regulation 47.18 of MERC (MYT) Regulations, 2024 prescribed, additional auxiliary energy consumption for Emission Control System. Accordingly, additional auxiliary energy consumption for Lime Spray Dryer or Semi dry FGD System 1% and for Selective Catalytic Reduction system 0.20%.

11.1.4.2 In view of the MoEF&CC notification revising the SO_2 emission standards for coal and lignite-based Thermal Power Plants vide Gazette Notification G.S.R. 465(E) dated 11.07.2025, and the Minutes of the CEA meeting held on 18.07.2025 regarding the financial implications of the revised SO_2 norms for 'Category C' Thermal Power Plants, MSPGCL, vide its letters dated 20.01.2026 and 20.05.2026, sought the concurrence of MSEDCL, being the beneficiary discom for Bhusawal Unit 6, on whether MSEDCL is willing:

(i) "To have FGD installed and pay for the cost attributable to FGD (CAPEX + OP-EX)" OR

(ii) "To stop the FGD installation project and pay the fixed cost (CAPEX) incurred so far by MSPGCL."

Subsequently, vide letter dated 22.07.2026, the Petitioner once again shared the relevant details with MSEDCL and requested it to communicate its decision at the earliest. However, as on the date of filing of the present Petition, MSEDCL's response is still awaited.

In the absence of MSEDCL's concurrence, the Petitioner has proceeded on the assumption, for the purpose of the present Petition, that the FGD installation project shall not be operationalised.

11.1.4.3 In view of above, the Petitioner submits that, out of the Emission Control System (ECS) namely the FGD and SCR system, only SCR system has been considered for operationalisation, with its commissioning envisaged during FY 2026-27 (end of Sep-2026). Accordingly, auxiliary energy consumption of Bhusawal Unit 6 considered as 5.75% upto CoD of SCR System, i.e. till FY2025-26. Upon commissioning of the SCR system, the additional auxiliary energy consumption attributable to its operation has been factored into the total auxiliary energy consumption in accordance with the applicable regulatory provisions.

11.1.4.4 Since the SCR system is proposed to be commissioned during FY 2026-27, only 50% of the admissible additional auxiliary energy consumption, i.e., 0.10%, has been considered for FY 2026-27. For the subsequent years of the MYT Control Period, i.e., FY 2027-28 onwards, the full admissible additional auxiliary energy consumption of 0.20% on account of the operation of the SCR system has been considered. Accordingly, the total auxiliary energy consumption has been projected as 5.75% up to FY 2025-26, 5.85% for FY 2026-27, and 5.95% from FY 2027-28 onwards, as set out in the table below.

Table 56: Auxiliary Energy Consumption for the 5th MYT Control Period for Bhusawal Unit 6

Particulars	Till COD of ECS	Post COD of ECS
With Steam Driven boiler feed pumps	5.75%	5.75%
Direct cooling air cooled condensers with mechanical draft fans	0.00%	0.00%
Lime spray dryer or Semi dry FGD Systems	0.00%	0.00%
Selective Catalytic Reduction System	0.00%	0.20%
Allowable Auxiliary Consumption	**5.75%**	**5.95%**

Note: for FY 2026-27 (year in which SCR is likely to be Commissioned), auxiliary energy consumption considered at 0.10% (half of the permissible AEC)

11.1.5 Secondary Fuel oil consumption

11.1.5.1 The Regulation 47.11 of MERC (MYT) Regulations, 2024 prescribed the SFOC norm of 0.50 ml/ kWh for coal based generating stations. Accordingly, the Petitioner has considered the same for calculation of Tariff determination of Bhusawal Unit 6. The Relevant extract of the aforesaid Regulation is as under:

"47.11 Secondary fuel oil consumption norm for all thermal Generating Stations, except those covered under Regulation 47.12 shall be:

a) Coal-based Generating Stations: 0.50 ml/kWh:

b) Lignite-fired Generating Station except based on CFBC technology: 1.5 ml/kWh

c) *Lignite-fired Generating Stations based on CFBC technology: 1.0 ml/kWh"* ***(Emphasis added)***

11.1.6 Transit and Handling Loss

11.1.6.1 MSPGCL has considered Transit and handling loss of 0.80% as per Regulation 47.20 of MERC (MYT) Regulation 2024 for calculation of provisional tariff determination of Bhusawal Unit 6. The relevant extract of the Regulation is as under:

"47.20 Transit and handling Losses
Normative transit and handling losses for coal/lignite based Generating Stations, as a percentage of quantity of coal or lignite dispatched by the coal/lignite supply company during the month shall be:
(a) Pit head Generating Stations: 0.2%
(b) Non-pit head Generating Stations: 0.8%" (Emphasis added)

11.1.7 Operational norms considered for the projection of energy charges

11.1.7.1 In view of the above consideration of operational parameters for Bhusawal Unit 6, following is the summary of operational norms considered for projection of energy charges of Bhusawal Unit 6 for 5th MYT Control Period.

Table 57: Summary of normative operational norms considered for Bhusawal Unit 6 for 5th MYT Control Period

Particulars	UoM	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
		Normative	Actual	Projection			
Availability	%	85.00%	85.00%	84.00%	85.00%	85.00%	85.00%
PLF	%	85.00%	71.71%	85.00%	85.00%	85.00%	85.00%
Aux cons.	%	5.75%	7.05%	5.85%	5.95%	5.95%	5.95%
SFOC	ml/kWh	0.50	0.93	0.50	0.50	0.50	0.50
SHR	kCal/kWh	2139.05	2301.26	2139.05	2139.05	2139.05	2139.05
Transit loss	%	0.80%	2.29%	0.80%	0.80%	0.80%	0.80%

11.2 Projection of Energy Charges

11.2.1 Price and GCV of Fuel

11.2.1.1 As detailed in the foregoing para, considering FY 2025-26 is already elapsed at the time of submission of the present Petition and as the Hon'ble Commission sought the actual details of fuel cost for FY 2025-26, the Price and GCV of Fuel for FY 2025-26 is considered based on the actuals fuel details for FY 2025-26.

11.2.1.2 The Regulation 51.6 of the MERC (MYT) Regulations, 2024 specifies that the landed cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months.

> *"……. Provided that the landed cost of primary fuel and secondary fuel for tariff determination shall be based on* ***actual weighted average cost of primary fuel and secondary fuel of the three preceding months,*** *and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating Station, preceding the first month for which the Tariff is to be determined for existing stations and* ***immediately preceding three months in case of new generating stations*** *shall be taken into account : ……."* ***(Emphasis added)***

11.2.1.3 The Petitioner most respectfully submits that consideration of preceding 3 months' details for the projection of price and GCV of coal would not provide true reflection of GCV and price of coal. Hence, last 12 months' details (Apr-2025 to March-2026) have been considered for the projection of Fuel cost for the balance Control Period.

11.2.1.4 Considering the above, the average GCV and prices considered by the Petitioner for FY 2025-26 to FY 2029-30 is as shown below:

Table 58: Average GCV and Prices considered for Control Period for Bhusawal Unit 6

Particulars	UoM	FY 2025-26 (Actual)		FY 26-27	FY 27-28	FY 28-29	FY 29-30
		Raw Coal	Imported Coal	Raw Coal	Raw Coal	Raw Coal	Raw Coal
GCV as received (A)	kCal/kg	3,204	4,682	3204	3204	3204	3204
Stacking Loss (B)	kCal/kg	85	85	85	85	85	85
GCV as fired (C=A-B)	kCal/kg	3,119	4,597	3,119	3,119	3,119	3,119
Transit loss of coal	%	2.29%	0.00%	0.80%	0.80%	0.80%	0.80%
Cost of Coal	**Rs./MT**	**3,576.04**	**11,213.96**	3683	3794	3908	4025
Add: Freight	Rs./MT	926.00		954	982	1012	1042
Total Landed cost of coal including freight	**Rs./MT**	**4,502.04**	**11,213.96**	**4,637**	**4,776**	**4,920**	**5,067**
Escalation Rate for subsequent years	%	3.00%	3.00%				

11.2.1.5 As already elaborated in the chapter of Fuel Utilisation Plan, the Petitioner has considered escalation of 3% for Raw coal on weighted average prices of coal received for the period from April 2025 to March 2026.

11.2.1.6 Considering the above, the average GCV and prices considered by the Petitioner for the projection of MYT Control Period is as shown below:

11.2.1.7 **Cost of coal and secondary fuel**: The Petitioner submits that the assumptions for GCV of secondary fuel considered as approved by the Hon'ble Commission in MYT Order (Case No. 187 of 2024) for MYT Control period:

Table 59: Secondary fuel related assumption for 1st year of Balance Control Period (FY 2026-27)

Particulars	UoM	Amount	Basis
Specific Secondary Fuel oil Consumption Approved	ml/kWh	0.50	Regulation 47.11 of MYT Regulation 2024
Calorific Value of Secondary Fuel Oil	kCal/ltr	10,000	Approved in MYT Order (Case No. 187 of 2024)
Price of Oil	Rs./kl	60,000	
Escalation of Oil Price	%	3.00%	Assumption as approved in Case NO. 187 of 2024

11.2.1.8 In view of escalation considered of 3% for price of coal and secondary fuel oil, transit loss and considering other coal charges, following are the GCV and landed price of coal and secondary oil considered for 5th MYT Control period.

Table 60: GCV and Price of coal for 5th MYT Control period

Particulars	UoM	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
GCV of Coal/Secondary Fuel Oil (ARB)		Actual	Projection			
Raw coal	kCal/kg	3,204	3,204	3,204	3,204	3,204
Imported coal	kCal/kg	4,682	-	-	-	-
Secondary Fuel Oil	kCal/L	10,552	10,000	10,000	10,000	10,000
Price of Coal/Secondary Fuel Oil						
Raw coal	Rs./MT	4,642	4,710	4,852	4,997	5,147
Imported coal	Rs./MT	11,214	-	-	-	-
Secondary Fuel Oil	Rs./KL	56,799	61,800	63,654	65,564	67,531

11.2.2 Cost of reagent for FGD and SCR system:

11.2.2.1 To mitigate emissions from thermal power plants and enhance air quality, the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, issued a notification dated 7th December 2015, along with subsequent amendments, prescribing revised environmental norms for coal-based thermal power plants. These norms specify limits on key pollutants such as sulphur dioxide (SO_2), nitrogen oxides (NOx), and particulate matter (PM), depending on the plant's capacity and year of commissioning. In line with these regulatory requirements, the Maharashtra Pollution Control Board (MPCB) has granted conditional Environmental Clearance, wherein the Petitioner has been directed to install a Flue Gas Desulphurisation (FGD) system to ensure compliance with the emission norms within the timeline stipulated in the MoEF&CC Notification dated 5th September 2022 and any subsequent amendments.

11.2.2.2 As per the Environment (Protection) Fourth Amendment Rules, 2025 notified on 11.07.2025, thermal power plants are categorised in following three categories:

Sl. No.	Category	Location/area
1	Category A	Within 10 km radius of National Capital Region or cities having million plus population (As per 2011 census of India)
2	Category B	Within 10 km radius of Critically Polluted Areas2 or Non-attainment Cities (as defined by the Central Pollution Control Board)
3	Category C	Other than those included in category A and B

11.2.2.3 In view of above, Bhusawal Unit 6 is classified under Category C. The aforesaid Environment (Protection) Fourth Amendment Rules, 2025 provides the applicability of emission standards for Sulphur dioxide in thermal power plants. The relevant excerpt of the said Rule is provided below for reference:

> *"(c) The Applicability of emission standards for Sulphur dioxide in thermal power plants shall be as follows:*
>
> *………….*
>
> *iv. **the Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E), dated the 30th August, 1990 and the time line for ensuring compliance by the existing Category C Thermal Power Plants of stack height criteria by the 31st December, 2029**." **(Emphasis added)***

11.2.2.4 In view of the applicability of emission standards for Sulphur Dioxide (SO_2), the Petitioner submits that such standards shall not apply to Bhusawal Unit 6, provided it complies with the stack height criteria specified in Notification No. GSR 742(E) dated 30th August 1990, and adheres to the compliance timeline of 31.12.2029 prescribed for existing Category-C thermal power plants. Accordingly, Bhusawal Unit 6 has time until 31.12.2029 to meet the stack height requirement.

11.2.2.5 Therefore, as per the aforesaid amendment, the operation of the Flue Gas Desulphurisation (FGD) is not mandatory for Bhusawal Unit 6 until such time as the prescribed norms are not being met.

11.2.2.6 Further, In view of the MoEF&CC notification revising the SO_2 emission standards for coal and lignite-based Thermal Power Plants vide Gazette Notification G.S.R. 465(E) dated 11.07.2025, and the Minutes of the CEA meeting held on 18.07.2025 regarding the financial implications of the revised SO_2 norms for 'Category C' Thermal Power Plants, MSPGCL, vide its letters dated 20.01.2026 and 20.05.2026, sought the concurrence of MSEDCL, being the beneficiary discom for Bhusawal Unit 6, on whether MSEDCL is willing:

(iii) "To have FGD installed and pay for the cost attributable to FGD (CAPEX + OP-EX)"

OR

(iv) "To stop the FGD installation project and pay the fixed cost (CAPEX) incurred so far by MSPGCL."

Subsequently, vide letter dated 22.07.2026, the Petitioner once again shared the relevant details with MSEDCL and requested it to communicate its decision at the earliest. However, as on the date of filing of the present Petition, MSEDCL's response is still awaited.

In the absence of MSEDCL's concurrence, the Petitioner has proceeded on the assumption, for the purpose of the present Petition, that the FGD installation project shall not be operationalised.

11.2.2.7 In view of above, the Petitioner submits that only Selective Catalytic Reduction (SCR) systems is expected to be commissioned during FY 2026-27 (end of Sep-2026) and FGD system shall not be commissioned and would not be operationalised.

<u>Cost of Limestone for FGD system and Ammonia for SCR system</u>:

11.2.2.8 . In light of the above, considering that the FGD system shall not be operationalised as detailed in foregoing para, the cost of limestone for FGD system is not applicable and hence the same has not been calculated for the MYT Control Period FY 2025-26 to FY 2029-30.

11.2.2.9 Further, specific ammonia consumption of SCR system of 0.6 g per kWh at 100% purity of ammonia specified as per Regulation 47.19 of MERC (MYT) Regulations 2024. As per this norm, the total requirement of Ammonia as per gross generation is worked out. The Rate of Ammonia of Rs.116.82/tonne as per quotation received considered for projection of ammonia cost based on the Ammonia requirement.

11.2.2.10 Considering the above, the summary of reagent cost for Bhusawal unit 6 for MYT Control period is as under:

Table 61: Summary of reagent cost for Bhusawal Unit 6 for 5th MYT Control period

Particulars	UoM	Formula	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Gross Generation (MU)		a	-	-	-	-	-
Reagent		b	Limestone	Limestone	Limestone	Limestone	Limestone
Sp. Limestone consumption	g/kWh	c	19.08	17.29	17.29	17.29	17.29
Total Reagent Req. (T)	Tonne	d=a*c	-	-	-	-	-
Reagent Cost per Ton	Rs./Tonne	e	3228.75	3228.75	3228.75	3228.75	3228.75
Total Limestone Cost (Rs.Cr) (A)	**Rs. Crore**	**f=**	-	-	-	-	-
Particulars	**UoM**	**Formula**	**FY 2025-26**	**FY 2026-27**	**FY 2027-28**	**FY 2028-29**	**FY 2029-30**
Gross Generation	MU	a	-	2,457.18	4,927.82	4,914.36	4,914.36
Reagent		b	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia
Sp. Ammonia Req.	g/kWh	c	0.60	0.60	0.60	0.60	0.60
Total Ammonia Requirement	Tonne	d	0.00	1474.31	2956.69	2948.62	2948.62
Ammonia Cost per Ton	Rs./Tonne	e	116.82	116.82	116.82	116.82	116.82
Total Ammonia Cost (Rs.Cr) (B)	**Rs. Crore**	**f**	**0.00**	**0.02**	**0.03**	**0.03**	**0.03**
Total Reagent cost (Limestone+Amm	**Rs. Crore**		-	**0.02**	**0.03**	**0.03**	**0.03**

Note: COD of SCR system is expected by end June 2026, hence, the cost of ammonia considered on the half of the gross generation for FY 2026-27

11.2.3 Projection of fuel cost:

11.2.3.1 The Petitioner respectfully submits that the projected fuel expenses and Energy Charge Rates have been computed based on the projected generation and corresponding fuel parameters, including the landed price and GCV, as per the Fuel Utilisation Plan as detailed out in foregoing chapter of this Petition. The performance parameters, such as Station Heat Rate, Specific Oil Consumption, transit loss, GCV gap, and stack loss, have been considered at normative levels.

11.2.3.2 Considering the above, cost towards primary fuel, secondary fuel and reagent cost of FGD and SCR system is worked out for Bhusawal unit 6 for MYT Control Period as shown below:

Table 62: Total fuel cost for the Control Period for Bhusawal Unit 6 (Rs. Crore)

Particulars	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
	Normative	Actual	Projection - Based on norms			
Cost of Coal	1,386.15	1,511.25	1,584.01	1,636.00	1,680.48	1,730.89
Cost of Oil	12.81	23.89	15.19	15.68	16.11	16.59
Cost of Limestone	-	-	-	-	-	-
Cost of Ammonia	-	-	0.02	0.03	0.03	0.03
Total Fuel Cost (B)	**1,398.96**	**1,535.14**	**1,599.21**	**1,651.72**	**1,696.62**	**1,747.52**

11.2.3.3 As per Regulation 47.18 of MERC (MYT) Regulations 2024, for thermal generating stations with FGD and SCR system additional auxiliary energy consumption of 1.00% and 0.20% shall be allowed. As submitted in the foregoing para, in absence of consent of MSEDCL, the Petitioner has considered that the FGD system shall not be operationalised. Hence, FGD system shall not be Commissioned. Further, the Petitioner submits that SCR system is expected to be commissioned during FY 2026-27 (by end of Sep-2026). Hence, applicability of additional auxiliary energy consumption is from the date of CoD of SCR system. In view of this, the Petitioner has shown the energy charge rate considering reagent cost (with respect to SCR system) and without considering reagent cost separately.

11.2.3.4 Further, Energy Charge Rate (ECR) has calculated based on fuel cost including reagent cost (with respect to only SCR system), considering net generation which is computed with auxiliary energy consumption of 5.85% for FY 2026-27 and 5.95% from FY 2027-28 onwards. Whereas Energy Charge Rate (ECR) has calculated based on fuel cost excluding reagent cost, considering net generation which is computed with auxiliary energy consumption of 5.75%.

11.2.3.5 Accordingly, following is the projected ECR of Bhusawal Unit 6 for MYT Control period with reagent cost of SCR system and without considering reagent cost as shown below:

Table 63: ECR of Bhusawal Unit 6 with and without reagent cost (corresponding to SCR system) for 5th MYT Control Period

Particulars	UoM	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
		Normative	Actual	Projection as per normative basis			
ECR including reagent cost (A)	Rs./kWh	3.580	3.983	3.456	3.564	3.671	3.781
ECR excluding reagent cost (B)	Rs./kWh	3.580	3.983	3.453	3.556	3.663	3.773
Reagent (SCR system) cost Per unit (C=A-B)	Rs./kWh	-	-	0.004	0.008	0.008	0.008

11.2.3.6 In view of above table, the Petitioner submits that the per unit charges on account of reagent cost (corresponding to SCR system) is ~ 0.008/kWh during 5th MYT Control Period based on projections.

11.2.3.7 In light of the above, the Petitioner request the Hon'ble Commission to approve the ECR projected above for MYT Control Period for Bhusawal unit 6.

11.3 Additional Capitalization for the Control Period

11.3.1.1 The Petitioner respectfully submits that, in accordance with the definition provided under the MERC (MYT) Regulations, 2024, "Original Project Cost" refers to the capital expenditure incurred by a generating company within the original scope of the project and up to the Cut-off Date, as admitted by the Hon'ble Commission.

11.3.1.2 Further, as per the provisions under Regulations 25.1 and 25.2 of the said Regulations, the Petitioner is permitted to claim additional capitalisation incurred post the Commercial Operation Date (CoD) and up to the Cut-off Date, on specific grounds and within the original scope of work, subject to prudence check by the Hon'ble Commission.

11.3.1.3 The relevant extract of the said Regulations is reproduced below for reference:

"25 Additional Capitalisation

25.1 The capital expenditure, actually 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:

(i) Undischarged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 24;

(iv) Liabilities to meet award of arbitration or for compliance of directions or order of any statutory authority or order or decree of any court of law; and:

(v) Change in law or compliance of any existing law; and

(vi) Force majeure events:

Provided that the details of works 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 shall be submitted along with the Petition for determination of final Tariff after the date of commercial operation of the Generating Unit/Station or transmission system.

25.2 The capital expenditure incurred or projected to be incurred in respect of a new Project on the following counts within the original scope of work after the cutoff date may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of directions or order of any statutory authority or order or decree of any court of law;

(ii) Change in law or compliance of any existing law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments, etc.;

(v) Any additional capital expenditure which has become necessary for efficient operation:"

………………………

(vi) Force majeure events;

(vii) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and

*(viii) Raising of ash dyke as a part of ash disposal system ……………………………………………….**(Emphasis added)***

11.3.1.4 As per the definition of "Cut-off Date" provided under the MERC (MYT) Regulations, 2024, it is defined as the last day of the financial year after thirty-six (36) months from the date of commercial operation (CoD) of the project. In accordance with this provision and considering that Bhusawal Unit 6 was declared under commercial operation on 22.02.2025, the Petitioner request the Hon'ble Commission to approve the 29.02.2028 as cut-off date for Bhusawal unit 6.

11.3.1.5 In view of the above, the Petitioner submits that capital expenditure pertaining to mandatory spares, railway siding, boundary wall, township and colony infrastructure, CSR-related activities, and the associated Interest During Construction (IDC) are proposed to be capitalised subsequent to the CoD but within the approved Cut-off Date of Bhusawal Unit 6. The Petitioner further submits that the said capital expenditures fall within the original approved scope of the project. The detailed work-wise breakup of the proposed capitalisation is furnished in Form 14.7 of the tariff formats submitted along with this Petition.

11.3.1.6 As submitted in the foregoing paragraphs, in view of the significant tariff implications arising from the operationalisation of the Flue Gas Desulphurisation (FGD) system and the revised regulatory framework applicable to Category 'C' Thermal Power Plants, the Petitioner has, for the purpose of the present Petition, proceeded on the basis that the FGD installation project shall not be taken forward beyond the capital expenditure already incurred. Accordingly, the balance capital expenditure of approximately Rs. 10 Crore proposed to be incurred towards the FGD system has been kept in abeyance and has not been considered under the Additional Capitalisation proposed up to the cut-off date from the CoD of Bhusawal Unit 6.

11.3.1.7 MSPGCL has also taken up the matter with FGD vendor for assessment of possibility of alternate usage of the presently installed FGD equipments at Bhusawal Unit # 6 at MSPGCL's other stations or any other usage suitable to the FGD vendor. Such alternate usage of any of the installed FGD equipment will lead to reduction in asset value for Bhusawal # 6, ultimately resulting in corresponding reduction in fixed cost claims by MSPGCL. Thus, in case of any deviation in Capex position at a later stage, MSPGCL will submit the differential claim during the truing-up process for the concerned period and pass on the benefit to the end use customer, through beneficiary MSEDCL.

11.3.1.8 The Petitioner further submits that Capex Rolling plan discussed in foregoing section of this Petition includes the capital expenditure towards reliability improvement scheme which is in accordance with Capex Regulations 2022. Accordingly, after cut-off date, the petitioner has proposed to capitalise expenditure of Rs.18.75 Cr and Rs.25 Crore during FY 2028-29 and FY 2029-30 respectively, beyond cut-off date.

11.3.1.9 In view of above, the Petitioner request the Hon'ble Commission to approve the total additional capitalisation proposed during 5th MYT Control period as tabulated below:

Table 64: Additional capitalization from FY 2025-26 to FY 2029-30 (Rs. Crore)

Particulars	22-02-2025 to 31-03-2025	2025-26	2026-27	2027-28	2028-29	2029-30
Additional capitalisation upto cut off date	23.68	238.02	731.17	137.01		
Additional capitalisation Post cut off date					18.75	25.00
Total additional capitalisation	**23.68**	**238.02**	**731.17**	**137.01**	**18.75**	**25.00**

11.3.2 Capitalisation towards flexible operation of coal

11.3.2.1 The Petitioner respectfully submits that, as per the CEA Regulations on "Flexible Operation of Coal-Based Thermal Power Generating Units, 2022", notified on 25.01.2023, coal-fired generating units are required to achieve a technical minimum power level of 40%, in accordance with the phasing plan specified by the CEA from time to time.

11.3.2.2 In compliance with the aforementioned regulation, the CEA, in February 2023, issued a report titled 'Flexibilization of Coal-Fired Power Plants - A Roadmap for Achieving 40% Technical Minimum Load,' which outlines the preliminary phasing of coal-fired units, predominantly from central generating stations. The report proposes that the flexibilization scheme will be implemented in four phases, based on the commissioning dates of the units. The said report comprehensively addresses various aspects relating to flexible operation of thermal generating units, including:

- Need for Flexibilisation
- Key Requirements of Flexibilisation
- Studies Conducted
- Challenges of Flexibilisation and Mitigation
- Procedure for Low Load Tests
- Modifications Required
- Cost of Flexible Power etc.

11.3.2.3 The CEA report further records that pilot studies have been undertaken with international partners at select generating stations, including NTPC, GSECL, Dadri Unit-4 and Farakka Unit-6. The findings of these studies establish that implementation of flexible operation necessitates various plant-level interventions and modifications. Reference is invited to Page 60 of 87 of the CEA report, which outlines the capital expenditure requirements associated with such interventions.

11.3.2.4 Further, IGEF has provided estimates of the capital expenditure required for flexible operation. The VGB studies conducted at NTPC Dadri (210 MW) and Simhadri (500 MW) have assessed the one-time expenditure required for preparing generating units for low minimum-load operation and have indicated that the cost of interventions increases significantly for operation below 40% load. The estimated expenditure is summarised below:

S. No	Intervention	Rs. Crore / Unit
1	To manage the consequences of cycling	3.9 to 7.8
2	Start-up Optimization	2.25 to 7.8
3	For 40% Technical Minimum Load	0.65 to 1.95

11.3.2.5 In view of the above industry studies and estimates contained in the CEA report, MSPGCL has projected a one-time capital expenditure of approximately Rs.12 Crore towards implementation of flexible operation and achievement of the prescribed technical minimum loading requirements for Bhusawal Unit-6 and has accordingly sought approval of the same in the present Petition.

11.3.2.6 It is further submitted that MSPGCL has obtained a budgetary offer for supply of a 660 MW Flexible Operation Training Simulator for Bhusawal Thermal Power Station. In response, M/s Steag Energy Services India Private Limited (STEAG) has submitted a budgetary quotation of approximately Rs.6 Crore. Such simulator infrastructure would be essential for imparting specialised training to operating personnel and ensuring safe and efficient implementation of flexible operation requirements.

11.3.2.7 Petitioner submits that the CEA report provides a detailed outline of the necessary technical conditions and qualifications required for operation under the flexibilization scheme. In light of this, the Petitioner submits that MSPGCL's Bhusawal unit 6 must undergo retrofitting to ensure compliance and enable operation in accordance with the CEA's prescribed norms. MSPGCL has already enumerated the challenges in foregoing section of this Petition. Considering this, in order to retrofitting of Bhusawal unit 6, the Petitioner estimates following capital expenditure during MYT Control period:

Table 65: Capitalization required for flexibilization of operation of Bhusawal Unit 6 (Rs. Crore)

Particulars	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Capitalisation for retrofiting of Bhusawal Unit 6		12.00			

11.3.3 Financing of capitalisation

11.3.3.1 The Petitioner submits that abovementioned additional capitalisation of Bhusawal unit 6 for MYT Control Period are proposed to be funded through debt and equity, as shown below. The same has been used for the calculation of normative interest on loan and Return on equity in subsequent section of the Petition.

Table 66: Capitalization and funding for the 5th Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Total Capitalisation	238.02	731.17	137.01	18.75	25.00
Debt (80%)	190.41	584.93	109.61	15.00	20.00
Equity (20%)	47.60	146.23	27.40	3.75	5.00

11.3.3.2 The Petitioner request the Hon'ble Commission to approve the above funding ratio and approve the tariff, based on this funding ratio.

11.4 Fixed Charges for 5th MYT of Control Period FY 2025-26 to FY 2029-30

11.4.1 O&M Expenses

11.4.1.1 The Regulation 48.2 of MERC (MYT) Regulations, 2024 prescribes O&M norms for new coal generating stations that achieved CoD on or after 26.08.2005 for 5th MYT Control period. The relevant extract of the Regulations is provided below:

"48.2 New Generating Stations and Generating Stations that achieved COD on or after August 26, 2005

a) For Coal based Generating Stations:

Particulars	***200/210/250 MW Sets INR Lakh/MW***	***300/330/350 MW Sets INR Lakh/MW***	***500 MW Sets INR Lakh/MW***	***600/660 MW Sets and above INR Lakh/MW***
FY 2025-26	*41.33*	*30.24*	*28.60*	*24.21*
FY 2026-27	*43.12*	*31.35*	*30.10*	*25.26*

FY 2027-28	*44.99*	*32.49*	*31.68*	*26.36*
FY 2028-29	*46.94*	*33.66*	*33.34*	*27.50*
FY 2029-30	*48.97*	*34.86*	*35.09*	*28.69*

…………

Provided further that the norms shall be multiplied by the following factors for arriving at norms of O&M expenses for additional Units in respective Unit sizes for the Units whose COD occurs on or after 1.4.2025 in the same Station:

200/210/250 MW	Additional 5th& 6th Units	0.90
	Additional 7th& more Units	0.85
300/330/350 MW	Additional 4th& 5th Units	0.90
	Additional 6th& more Units	0.85
500 MW and above	Additional 3rd& 4th Units	0.90
	Additional 5th & above Units	0.85

11.4.1.2 In view of the above provisions, the norms specified for 600/660 MW sets and above are applicable for Bhusawal Unit 6. The Regulations further provides that in case of additional 5th and above units factor of 0.85 shall be applied on the norms (in Rs. Lakhs/MW basis) specified as per Regulation 48.2 of MERC (MYT) Regulations, 2024. However, in this regard the Petitioner respectfully submits that multiplication factor used to determine normative O&M charges is applicable only for additional units of existing capacities. Bhusawal Unit 3 has a capacity of 1 x 210 MW, while Bhusawal Units 4 and 5 each have capacities of 2 x 500 MW. Therefore, the Petitioner submit that Bhusawal Unit 6 (1 x 660 MW) is not an extension of the existing capacity. Instead, it is a new project utilizing supercritical technology.

11.4.1.3 In light of the above, the Petitioner respectfully submits that multiplication factor of 0.85 outlined in Regulation 48.2 of the MERC MYT Regulations 2024 shall not be applied to Bhusawal Unit 6 (1 x 660 MW), as it does not represent an extension of the existing capacity.

11.4.1.4 Accordingly, the Petitioner has projected O&M Expenses for Bhusawal Unit 6 (1 X 660 MW) for the 5th MYT Control Period. The working of amount of O&M expense projected for Bhusawal Unit 6 for the 5th MYT Control Period is shown as below:

Table 67: O&M Expenses for the 5th Control Period (Rs. Crore)

Particulars	UoM	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Plant capacity (A)	MW	660	660	660	660	660
O&M Norm for 660 MW (B)	Rs.Lakhs/MW	24.21	25.26	26.36	27.50	28.69
O&M expenses (C=A*B/100)	Rs. Crore	159.79	166.72	173.98	181.50	189.35

11.4.2 **O&M Expenses for Emission control system:**

11.4.2.1 The Regulation 48.3 of MERC (MYT) Regulations, 2024 provides for O&M expenses on account of Emission Control System (ECS) at 2% of the admitted capital expenditure (excluding interest during construction) as on its date of commercial operation, which shall be escalated annually @4.33% during the Control Period ending on 31.03.2030.

11.4.2.2 The Petitioner submits that SCR System is expected to be commissioned during FY 2026-27 (by end of Sep-2026). Accordingly, the Petitioner has calculated O&M expenses towards Emission Control System (SCR system) from FY 2026-27 onwards for 5th MYT Control Period as tabulated below:

Table 68: Additional O&M Due to Emission Control System for the 5th Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Cumulative capitalisation towards ECS (SCR system) (excluding IDC) (A)	-	46.07	46.07	46.07	46.07
O&M charges due to Emission Control System (for SCR system) (B=A*2%*(1+4.33%))	-	0.48	1.00	1.05	1.09
Note: escalation of y-o-y of 4.33% considered from 2nd year onwards					

Note: O&M Charges of FY 2026-27 calculated for half of the year considering likely CoD of SCR system by end of Sep-2026.

11.4.3 **Impact of pay revision and wage revision:**

11.4.3.1 Regarding pay revision, the Petitioner respectfully submits that as submitted in the foregoing section of this Petition, the impact of pay revision is being claimed over and above the O&M norm approved by the Hon'ble Commission for new generating stations, as impact of pay revision as per circulars no. 546, 548, and 549 dated 09.08.2024 have not been considered while deciding the O&M norms for new generating stations for 5th MYT Control period. As per these circulars, the pay revision is effective from 01.04.2023. Bhusawal Unit 6, being a new station (Commissioned after 26.08.2005, the O&M expense for Bhusawal Unit 6 are allowed as per capacity (Rs. Lakh/MW basis). The norms approved by the Hon'ble Commission are considering the historical actual O&M expenses for the similar size of the units of different generating companies. However, the Petitioner respectfully submits that the aforesaid pay revision circulars are notified or issued on 09.08.2024 and MERC (MYT) Regulations 2024 was notified on 19.08.2024. Hence, the Petitioner respectfully submit that the said pay revision circulars and accordingly its impact was not submitted and considered at the time of framing of O&M norms for new generating stations in final MERC (MYT) Regulations 2024.

11.4.3.2 In view of the above, the Hon'ble Commission has already approved the pay revision for other new generating stations of MSPGCL in the MYT Order (Case No. 187 of 2024), over and above the O&M norms specified under Regulation 48.2 of the MERC (MYT) Regulations, 2024. Accordingly, for estimating the impact of pay revision for Bhusawal Unit 6 for 5th MYT Control period, FY2025-26 to FY 2029-30, the Petitioner has calculated the impact as one-third (660/1980 MW) of the amount approved for Koradi Units 8 to 10 (3 x 660 MW) for FY 2025-26 in the said MYT Order. Further, impact of pay revision from FY 2026-27 onwards have been calculated with y-o-y escalation rate of 4.36% as considered in said MYT Order for projection. The Petitioner further submits that the final amount of pay revision along with documentary evidence shall be submitted at the time of final True Up of respective years.

11.4.3.3 Further, Regulation 48.2 of MERC (MYT) Regulations, 2024 provides for O&M norms for new generating stations achieved CoD after 26.08.2005. The said Regulations of MERC (MYT) Regulations, 2024 does not provide for the claim of wage revision. Whereas Regulation 48.1 which provides for O&M norms for old generating stations that achieved CoD on or before 26.08.2005, provides for wage revision. The relevant extract of the Regulation. 48.1 (b) of MERC (MYT) Regulations, 2024 specifies as under:

> *"**48 Operation and maintenance expenses for Thermal Generating Stations***
>
> *48.1 Generating Stations/Units that achieved COD before August 26, 2005*
>
> *b) The Operation and Maintenance expenses excluding water charges and including insurance shall be derived on the basis of the average of the Trued-up Operation and Maintenance expenses after adding/deducting the share of efficiency gains/losses, for the five Years ending March 31, 2024, excluding abnormal Operation and Maintenance expenses, if any, subject to prudence check by the Commission:*
>
> ***Provided that, the impact of the wage revision if any during the Trued-up year shall be included in the O&M expenses while determining the norms for the O&M expenses for the future year. (Emphasis added)***

11.4.3.4 In view of above provisions, the Petitioner submits that it shall submit the actual pay revision impact along with documentary evidence during True up of respective years.

Table 69: Impact of pay revision for the 5th Control Period (Rs. Crore)

Particulars	Formula	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Impact of Pay revision						
Approved for Koradi Unit 8-10	a	26.08	27.22	28.40	29.64	30.93
Projected for Bhusawal Unit 6	**b=a*660/1980**	**8.69**	**9.07**	**9.47**	**9.88**	**10.31**

11.4.3.5 The Petitioner request the Hon'ble Commission to approve the impact of pay revision for MYT period as tabulated above and allow the Petitioner to claim the actual pay revision impact in True Up of respective years.

11.4.4 Water charges

11.4.4.1 The Petitioner submits that, with respect to water charges applicable to generating stations, the provisions under Regulation 48.1 of the MERC (MYT) Regulations, 2024 are as follow:

> *"d) Water Charges shall be **allowed separately as per actuals, based on water consumption** depending upon type of plant, type of cooling water system etc., subject to prudence check and considering the norms of specific water consumption notified by the Ministry of Environment, Forest and Climate Change:*
>
> *Provided that **in the MYT Order, the Commission shall provisionally approve the Water Charges for each year of the Control Period based on the actual Water Charges as per latest Audited Accounts** available for the Generating Company, subject to prudence check." **(Emphasis added)***

11.4.4.2 In accordance with the aforesaid provision, the Hon'ble Commission, in the MYT Order, shall approve water charges for each year of the Control Period based on the actual expenses as per the latest Audited Accounts. However, the Petitioner submits that Bhusawal Unit 6 has achieved Commercial Operation Date on 22.02.2025, and this limited operational period does not provide an adequate basis for projecting water charges for the entire five-year Control Period.

11.4.4.3 As per Para 6.2(5) of the Gazette Notification dated 28.01.2016 issued by the Ministry of Power (MoP), Government of India, all thermal power plants, including existing stations, located within a 50 km radius of a sewage treatment plant (STP) operated by a municipality, local body, or similar agency, are mandated to use treated sewage water from such facilities. This requirement has also been incorporated in the Revised Tariff Policy issued by the Ministry of Urban Development, Government of India, on 10.05.2016. In compliance with these provisions, the Board, vide Resolution No. 2024/3827 dated 24.02.2024, has accorded in-principle approval for the recycling and reuse of STP water for Bhusawal, Koradi, and Paras TPS.

11.4.4.4 These reuse schemes shall be implemented in following phase manner:

Phase	Reuse Schemes	Reuse (MLD)
Phase 1	2 x 660 MW Koradi Reuse	110
	BTPS Reuse – with Jalgaon Sewage Only	80
Phase 2	BTPS Reuse – Additional Reuse with Bhusawal town sewage	20
Phase 3	Paras Reuse	25

11.4.4.5 Bhusawal Thermal Power Station (BTPS) is located at Deepnagar in Jalgaon District, Maharashtra, approximately 8 km from Bhusawal city and 36 km from Jalgaon city. BTPS has following thermal power units under operation.

Sr.No.	Stage	Unit No.	Installed (MW)	Commissioning Date	Status
1.	Stage I	1	62.5	July 1968	Closed
2.	Stage II	2	210	August 1979	Retired
3.	Stage II	3	210	September 1982	Running
4.	Stage III	4	500	November 2012	Running
5.	Stage III	5	500	January 1014	Running
6.	Stage IV	6	660	February 2025	Running

11.4.4.6 Out of above running units, the proposed treated wastewater reuse scheme shall be implemented for Unit 3 – 1 x 210 MW and Unit 6 – 1 x 660 MW considering sewage from Jalgaon city. The present fresh water source shall be continued for Unit 4 & 5 – 2 x 500 MW. In future as per the requirement of 500 MW units, TTW reuse scheme can be implemented in 2nd phase by adding the sewage from Bhusawal town.

11.4.4.7 Accordingly, the Petitioner has projected the water charges for Bhusawal Unit 6 for the 5th MYT Control Period based on the anticipated generation and the water supply arrangements finalized with the respective water supply authorities. The detailed computation of the projected water charges is furnished in the formats attached with this Petition for the kind consideration of the Hon'ble Commission.

11.4.4.8 The detail working of projection of water charges for Bhusawal Unit 6 for 5th MYT Control Period is summarised as under.

Table 70: Water charges for the 5th Control Period (Rs. Crore)

Particulars	22.02.2025 to 31.03.2025	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Water Requirement (Cubic Meter)	15,53,375	1,94,96,000	1,94,93,859	1,94,96,000	1,94,96,000	1,94,87,650
	-	-	-	-	-	-
Sources to fulfil above requirement (Cubic Meter)	-	-	-	-	-	-
210MW reservation	-	1,25,00,000	1,25,00,000	14622000	7311000	0
500MW Concessional rate water reservation	-	-	-	-	-	-
Proposed STP (M/s Vishwaraj)	-	-	-	0	9748000	19487650
Other 8.08Mm3 Concessional rate water reservation as per MOU Dtd 27.12.2024 for 1x660MW	1553375	7000000	7000000	4874000	1827750	0
Total	15,53,375	1,95,00,000	1,95,00,000	1,95,00,000	1,94,96,000	1,94,87,650
Rate of Water (Rs./m3)						
210MW reservation	31.68	34.85	38.33	42.17	46.38	51.02
500MW Concessional water supply	2.53	2.79	3.06	3.37	3.71	4.08
Proposed STP (M/s Vishwaraj) Rs per m3	69.50	77.15	85.63	95.05	105.51	117.11

Particulars	22.02.2025 to 31.03.2025	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Other 8.08Mm3 (7.00+1.08 losses) Concessional rate water reservation as per MOU Dtd 27.12.2024 for 1x660MW	2.53	2.79	3.06	3.37	3.71	4.08
Cost of water (Rs. Crores)						
210MW reservation	-	43.56	47.92	61.66	33.91	-
500MW Concessional rate water reservation	-	-	-	-	-	-
Proposed STP (M/s Vishwaraj)	-	-	-	-	102.85	228.22
Other 8.08Mm3 Concessional rate water reservation as per MOU Dtd 27.12.2024 for 1x660MW	0.39	1.95	2.14	1.64	0.68	-
Total Cost of water (Rs. Crores)	**0.39**	**45.51**	**50.06**	**63.30**	**137.44**	**228.22**

11.4.4.9 In view of above, the Petitioner respectfully submit that the Hon'ble Commission has granted in-principle approval for the use of Sewage Treatment Plant (STP) water for Bhusawal TPS Unit 6 vide letter reference no. MERC/CAPEX/2025-2026/MSPGCL/0686 dated 01.09.2025. The Petitioner submits that the applicable rates for STP water were duly furnished to the Hon'ble Commission at the time of submission of the Detailed Project Report (DPR). Based on the said rates, the Petitioner has projected the aforementioned STP water charges for the respective years of the MYT Control Period. With respect to the water drawn from the presently available allocations/ sources for the existing 210 MW and 500 MW units at Bhusawal TPS, the applicable rates have been determined on the basis of Bulk Water Tariff Order by Maharashtra Water Resources Regulatory Authority dated 29.03.2022. The said Letter and Bulk Water Tariff Order are enclosed as **Annexure – 20**.

11.4.4.10 The Petitioner submits that the electricity expenses incurred for pumping water from the source to the Bhusawal Unit 6 shall be included in the water charges.

11.4.4.11 The Petitioner respectfully prays that the Hon'ble Commission may be pleased to approve the projected water charges for the MYT Control Period as submitted herein, and further, permit the Petitioner to recover the water charges at actuals during the True-Up exercise of the respective years, in accordance with the applicable provisions of the MERC (MYT) Regulations, 2024.

11.4.5 Depreciation

11.4.5.1 As per Regulation 28.1 of the MERC (MYT) Regulations, 2024, the approved original cost of fixed assets shall form the basis for computation of depreciation. Accordingly, the Petitioner has considered the capital cost capitalised as on the date of CoD of Bhusawal Unit 6, along with the proposed additional capitalisation post CoD, for the purpose of calculating depreciation.

11.4.5.2 Depreciation has been computed using the Straight-Line Method at the rates prescribed under the Regulations, on the opening balance of Gross Fixed Assets (GFA) as on the date of commissioning. Further, in accordance with Regulation 28.1(b) of the MERC (MYT) Regulations, 2024, once an individual asset has been depreciated to the extent of 70% of its original cost, the remaining depreciable value as on 31st March of that financial year shall be spread over the balance useful life of the asset. The useful life of the assets has been considered as 25 years, as defined under Clause (104) of the said Regulations.

11.4.5.3 The detailed computation of depreciation for the 5th MYT Control Period is provided in Form 5 of the tariff formats annexed to this Petition. A summary of the depreciation projected for Bhusawal Unit 6 for the said Control Period is presented in the table below.

Table 71: Depreciation for the 5th Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Depreciation	306.29	326.74	345.05	348.34	348.21

11.4.5.4 The Petitioner further submits that, for the purpose of projecting depreciation for the 5th MYT Control Period, no depreciation has been considered in respect of Head Office assets proposed to be allocated to Bhusawal Unit 6, in accordance with the allocation methodology adopted at the MSPGCL level for common assets. The Petitioner submits that the actual allocation and the corresponding depreciation for such Head Office assets shall be submitted at the time of True-Up for the respective years, based on the audited figures.

11.4.5.5 In view of the above, the Petitioner respectfully prays that the Hon'ble Commission may be pleased to approve the projected depreciation for Bhusawal Unit 6 for the 5th MYT Control Period and permit the Petitioner to claim depreciation towards

Head Office assets during the True-Up of the respective years, based on actual allocation in accordance with applicable regulations.

11.4.6 **Interest on Loan**

11.4.6.1 In accordance with Regulation 30.1 of the MERC (MYT) Regulations, 2024, the loans determined as per the methodology specified in Regulation 27, in respect of assets put to use, shall be considered as gross normative loan for the purpose of computing interest on loan. As detailed in the foregoing sections of this Petition, the Petitioner has received an equity of Rs.858 Crore from the Government of Maharashtra (GoM) against a total capitalisation of Rs.5812.38 Crore as on the date of CoD. Accordingly, the balance capitalisation amount as on CoD has been funded through loan and requisite loan sanction and disbursement have already been secured. Further, as submitted earlier, the Petitioner proposes that additional capitalisation post-CoD shall be financed in a debt-equity ratio of 80:20.

11.4.6.2 Based on the above, the Petitioner has considered a normative loan addition of Rs.4954.38 Crore (Rs.5812.38 Crore less Rs.858 Crore) corresponding to the capitalisation as on CoD. In respect of additional capitalisation post-CoD, the normative loan has been considered at 80% of the projected capitalisation, in line with the proposed funding structure. Further, in accordance with Regulation 30.4 of the MERC (MYT) Regulations, 2024, the repayment of loan has been considered equivalent to the depreciation projected for the respective years.

11.4.6.3 As per Regulation 30.5 of the MERC (MYT) Regulations, 2024, the rate of interest on loan shall be the weighted average rate of interest (WAROI) computed based on the actual long-term loan portfolio at the beginning of each financial year. The relevant excerpt of the said Regulation is reproduced below for reference.

> *"30.5 The rate of interest shall be the weighted average rate of interest computed on the basis of the actual long-term loan portfolio at the beginning of each year: Provided that at the time of Truing-up, the weighted average rate of interest computed on the basis of the actual long-term loan portfolio during the concerned year shall be considered as the rate of interest:….."*

11.4.6.4 Accordingly, the Petitioner has considered the rate of interest for MYT Control period based on the projected loan portfolio as shown below. The working of weighted average rate of Interest loan is provided in F6 of the formats enclosed with the Petition:

Table 72: Weighted average rate of interest of loan considered for MYT Control Period

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Average Loan (Rs. Crore)					
Loan 1 - 13399	3,296.27	3,063.60	2,830.92	2,598.24	2,365.57
Loan 2 - 18246	785.89	777.67	759.07	740.48	721.89
Loan 3 - 15090 FGD	220.00	157.20	94.40	31.50	-0.00
Respective Interest Rates					
Loan 1 - 13399	9.26%	9.26%	9.26%	9.26%	9.26%
Loan 2 - 18246	9.40%	9.40%	9.40%	9.40%	9.40%
Loan 3 - 15090 FGD	10.00%	10.00%	10.00%	10.00%	10.00%
Weighted average Rate of Interest	**9.32%**	**9.32%**	**9.31%**	**9.30%**	**9.29%**

11.4.6.5 Regulation 30.6 of MERC (MYT) Regulations, 2024 provides that interest on the loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest, provided that at the time of Truing-up, the normative average loan of the concerned year shall be considered on the basis of the actual asset capitalisation approved by the Hon'ble Commission for the year. In view of this, the Petitioner has considered addition of normative loan for respective years as 80% of the additional capitalisation proposed for 5th MYT Control Period. Further, interest on loan has been calculated for 5th MYT Control Period at weighted average rate calculated as tabulated above.

11.4.6.6 In accordance with Regulation 30.8 of the MERC (MYT) Regulations, 2024, the finance charges incurred for availing loans from financial institutions shall be allowed by the Hon'ble Commission at the time of Truing-Up, subject to prudence check. The relevant excerpt of the Regulation is provided below for reference:

> *"30.8 The finance charges incurred for obtaining loans from financial institutions for any Year shall be allowed by the Commission at the time of Truing-up, subject to prudence check."*

11.4.6.7 Accordingly, the Petitioner respectfully submits that no finance charges have been projected in the present Petition. However, the Petitioner shall claim the finance charges at actuals at the time of Truing-Up of the respective years, in accordance with the above-stated provisions.

11.4.6.8 The total interest expenses for the 5th MYT Control Period, as computed in accordance with the aforesaid provisions of the MERC (MYT) Regulations, 2024, are presented in the table below. The Petitioner respectfully prays that the Hon'ble Commission may be pleased to approve the same for the purpose of tariff determination for the said Control Period.

Table 73: Interest on Loan for the Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Opening Balance	4,941.96	4,826.09	5,084.28	4,848.84	4,519.25
Addition of loan during the year	190.41	584.93	109.61	18.75	25.00
repayment of loan during the year	306.29	326.74	345.05	348.34	348.21
Closing Balance of Loan	4,826.09	5,084.28	4,848.84	4,519.25	4,196.03
Average Loan	4,884.02	4,955.19	4,966.56	4,684.04	4,357.64
Interest Rate	9.32%	9.32%	9.31%	9.30%	9.29%
Interest on Loan	**455.36**	**461.64**	**462.28**	**435.51**	**404.94**

11.4.7 Interest on Working Capital

11.4.7.1 The Petitioner has computed the Interest on Working Capital as per the provisions of the Regulations 32.1 of the MERC (MYT) Regulations, 2024 applicable for the 5th Control period.

11.4.7.2 The following has been considered for computing the working capital requirement:

a) Cost of coal towards stock for 20 days;
b) Cost of coal for 30 days;
c) Cost of secondary fuel oil for two months;
d) Normative Operation and Maintenance expenses for one month;
e) Maintenance spares at 1 per cent of the opening Gross Fixed Assets for the Year; and
f) Receivables for sale of electricity equivalent to forty-five days of the sum of annual fixed charges and energy charges approved in the Tariff Order for ensuing year/s, computed at target availability and excluding incentive, if any:
g) Less: Payables for fuel (including oil and secondary fuel oil) to the extent of one month of the cost of fuel calculated on target availability.

11.4.7.3 Further, State Bank of India Base Rate (9 % SBI Marginal Cost of Funds Based Lending Rate (MCLR) plus 150 basis point) has been considered for calculation of interest on working capital for the Control Period in line with Regulation 32.1 of MERC (MYT) Regulation, 2024.

> *"(f) Rate of interest on working capital shall be on normative basis and shall be* ***equal to the Base Rate as on the date on which the Petition for determination of Tariff is filed, plus 150 basis points****:" **(Emphasis added)***

11.4.7.4 The interest on working capital for the Control Period worked out as shown below:

Table 74: Interest on working capital for the 5th MYT Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Cost of Coal for 30 days	124.21	130.19	134.10	138.12	142.27
Cost of Fuel Stock for 20 days	82.81	86.80	89.40	92.08	94.84
Cost of Fuel Oil for 2 months	3.98	2.53	2.61	2.69	2.77
O&M Expenses for 1 month	17.35	18.29	19.29	20.35	21.48
Miantenance Spares @1% of opening GFA	58.36	60.74	68.05	69.42	69.61
Receivables for 45 days	339.34	354.79	367.78	382.74	398.48
Payables for 1 month	1.96	1.25	1.29	1.32	1.36
Total Working Capital requirement	**624.08**	**652.08**	**679.95**	**704.08**	**728.08**
Rate of IoWC	10.50%	10.50%	10.50%	10.50%	10.50%
Interest on Working Capital	**65.53**	**68.47**	**71.39**	**73.93**	**76.45**

11.4.7.5 Further, as mentioned in the forgoing section of this Petition, the Petitioner shall installed SCR system at Bhusawal Unit 6. The Regulation 32.1 (aa) of MERC MYT Regulations, 2024 provides the formula for calculation of additional working capital requirement for these Emission Control Systems. The relevant Regulation is reproduced below for reference:

"(aa) In case of Emission Control System of coal or lignite based thermal generating stations, working capital in additional to working capital computed in accordance with Regulation 32.1 (a) shall be allowed covering:

(i) Cost of limestone or reagent towards stock for 20 days for generation corresponding to the target availability;

(ii) Advance payment for 30 days towards cost of reagent for generation corresponding to the target availability;

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

(iv) Maintenance spares at one per cent of the opening Gross Fixed Assets in respect of emission control system."

11.4.7.6 According to aforementioned Regulations, interest on working capital towards Emission Control System worked out for the 5th MYT Control Period as shown below:

Table 75: Interest on working capital on account of Emission Control System for the 5th MYT Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Cost of limestone/reagent towards stock - 20 days	-	0.001	0.002	0.002	0.002
Advance payment for 30 days towards cost of reagent - 30 days	-	0.001	0.003	0.003	0.003
Normative O&M Expense in respect of Emission Control System, for 1 month	-	0.040	0.084	0.087	0.091
Maintenance Spares @1% of the opening GFA	-	0.461	0.461	0.461	0.461
Total Working Capital Requirement - ECS	**-**	**0.503**	**0.549**	**0.553**	**0.556**
Rate of IoWC	10.50%	10.50%	10.50%	10.50%	10.50%
Interest on Working Capital - ECS	**-**	**0.053**	**0.058**	**0.058**	**0.058**

11.4.8 Return on Equity

11.4.8.1 Considering the proposed funding ratio of 80:20 in debt: equity, the addition in normative equity considered as 20% of the additional capitalisation proposed for MYT Control Period, as detailed out in foregoing paragraph of this Petition.

11.4.8.2 As per Regulation 29.1 of MERC MYT Regulations, 2024, Return on Equity shall be allowed in two parts viz. Base Return on Equity, and Performance Linked Return on Equity linked with actual performance. Also, as per this Regulation, Return on Equity allowed at the time of MYT Proceedings shall be inclusive of both Base Return on Equity and Performance Linked Return on Equity.

11.4.8.3 Further, 3rd proviso of Regulation 29.1 of MERC MYT Regulations, 2024 provides as under:

> *"**29 Return on Equity***
>
> ***29.1…………***
>
> *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%.**"*
>
> *………… **(Emphasis added)***

11.4.8.4 In view of the above provision, the Petitioner submits that out of the additional capitalisation proposed for 5th MYT Control period, additional capitalisation till cut-off date, i.e. 29.02.2028 is within original scope of work and capitalisation proposed of Rs.18.75 Crore and Rs.25 Crore during FY 2028-29 and FY 2029-30 respectively is beyond original scope of work of the Bhusawal unit 6 project. Considering this, ROE on additional capitalisation projected during FY 2028-29 and FY 2029-30 is calculated at MCLR rate plus 350 basis point, i.e. 12.50%.

11.4.8.5 Regulation 29.2 prescribes provides for Return on Equity at the time of MYT Proceedings in detail, as reproduced as under:

> *"29.2 Return on Equity at the time of MYT Proceedings*
>
> *i. Return on equity for the Generating Company having thermal, gas or hydro plants, Transmission Licensee and Distribution Wires Business, shall be allowed on the equity capital determined in accordance with Regulation 27 for the assets put to use, at the rate of 15.50 (base rate – 14 + performance linked - 1.50) per cent per annum in Indian Rupee terms."*

11.4.8.6 In light of the above provisions of 29.1 and 29.2, the Petitioner submits that generating company is entitled for the 15.50% RoE at the time of MYT proceedings. Further, regarding ROE on additional capitalisation beyond original scope of work, base rate RoE is allowed as per one-year SBI MCLR plus 300 basis point, subject to 14%. Hence, the Petitioner most respectfully submits the said rate of ROE reduced is against the base rate of 14%. In view of this and since additional ROE of 1.5% is linked to the performance of the generating stations, the Petitioner is entitled for the additional RoE of 1.50% on additional capitalisation beyond original scope also.

11.4.8.7 Accordingly, the total return on equity for the Control Period is worked out as shown below.

Table 76: Return on Equity on capitalization within the original scope of work for the Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Regulatory Equity at the beginning of the year	862.74	910.34	1,056.57	1,083.98	1,083.98
Equity portion of capitalisation during the year	47.60	146.23	27.40	-	-
Regulatory Equity at the end of the year	910.34	1,056.57	1,083.98	1,083.98	1,083.98
Pretax Return on Equity after considering effective Tax rate	15.50%	15.50%	15.50%	15.50%	15.50%
Return on Regulatory Equity at the beginning of the year	133.72	141.10	163.77	168.02	168.02
Return on Regulatory Equity addition during the year	3.69	11.33	2.12	-	-
Total Return on Equity	**137.41**	**152.44**	**165.89**	**168.02**	**168.02**

Table 77: Return on Equity on capitalization beyond the original scope of work for the Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Regulatory Equity at the beginning of the year	-	-	-	-	3.75
Equity portion of capitalisation during the year	-	-	-	3.75	5.00
Regulatory Equity at the end of the year	-	-	-	3.75	8.75
Base Rate of Return on Equity (1 yr SBI MCLR+3.5%, subject to ceiling of 14% - Reg 29.1)	**12.50%**	**12.50%**	**12.50%**	**12.50%**	**12.50%**
Additional ROE	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**
Total ROE on capitalistion beyond scope of work	**14.00%**	**14.00%**	**14.00%**	**14.00%**	**14.00%**
Pretax Return on Equity after considering effective Tax rate	**14.00%**	**14.00%**	**14.00%**	**14.00%**	**14.00%**
Return on Regulatory Equity at the beginning of the year	-	-	-	-	0.53
Return on Regulatory Equity addition during the year	-	-	-	0.26	0.35
Total Return on Equity	**-**	**-**	**-**	**0.26**	**0.88**

Table 78: Total Return on Equity for the 5th MYT Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Return on equity towards capitalisation within original scope of work	137.41	152.44	165.89	168.02	168.02
Return on equity towards capitalisation beyond original scope of work	-	-	-	0.26	0.88
Total ROE	**137.41**	**152.44**	**165.89**	**168.28**	**168.89**

11.4.8.8 The Petitioner requests the Hon'ble Commission to approve the RoE projected as tabulated above for 5th MYT Control Period for calculation of tariff:

11.4.9 Income Tax

11.4.9.1 The Petitioner submits that no actual income tax has been paid during FY 2024-25, being the latest financial year for which audited accounts are available. In view of this, the Petitioner estimates NIL income tax for the Control Period for Bhusawal Unit 6 and accordingly considered to arrive at the pretax RoE.

11.4.10 Other expenses

11.4.10.1 The Petitioner has been incurring coal related charges which are fixed in nature such as coal handling contract charges, payment to railway staff and other coal related cost. For the purpose of projecting Other Expenses over the MYT Control Period, the Petitioner has considered the actual Other Expenses incurred in FY 2024-25 as the base year figures, and has projected for MYT Control period applying a year-on-year escalation rate of 10%. It is respectfully submitting that expenses projected under head of “Other expenses” are regular expenses, which has been incurring also for other stations of MSPGCL and are being allowed by the Hon’ble Commission. Hence, the projected expenses are prudent according to the day to day operation of generating unit.

11.4.10.2 In view of this, the Petitioner has projected other expenses for Bhusawal unit 6 for 5th MYT Control period as shown below. The details of the same is provided in Form 10 of tariff formats annexed to this Petition.

Table 79: Other expenses for Bhusawal Unit 6 for the 5th MYT Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Other expenses	39.69	43.66	48.03	52.83	58.11

11.4.10.3 The Petitioner request the Hon’ble Commission to approve other expenses as tabulated above.

11.4.11 Non-Tariff Income

11.4.11.1 The Petitioner has estimated non-tariff income (NTI) for Bhusawal Unit 6 for 5th MYT Control period, based on the income listed under NTI in accordance with Regulation 46.2 of MERC (MYT) Regulations 2024. The working/details of the same are provided in Form 11 of the formats annexed to this Petition.

Table 80: NTI of Bhusawal Unit 6 for 5th MYT Control Period (Rs. Crore)

Particulars	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
NTI	1.06	1.11	1.17	1.23	1.29

11.4.12 Expenses related to training costs for the flexible operation of units

11.4.12.1 The Petitioner respectfully submits that, as previously outlined in section of challenges in MYT Control Period, MSPGCL's generating units are mandated to comply with the CEA norms as specified under the CEA Regulations on 'Flexible Operation of Coal-Based Thermal Power Generating Units, 2022.'

11.4.12.2 In order to ensure compliance with the CEA norms, the Petitioner submits that MSPGCL will require specialized training for its plant personnel to facilitate high flexibility operations. The key costs involved in achieving this compliance include the procurement of High Flexibility Operation Simulators for the Koradi and Nashik Training Centres, as well as the training expenses for MSPGCL engineers. These are one-time capital expenditures necessary for the compliance of the norms. These requirements were submitted by the Petitioner as a part of MYT Petition (Case No. 187 of 2024) at para 14.4.10.3. Hence, the cost of High flexibility operation simulators is not being submitted for Bhusawal Unit 6 separately in the present Petition. However, the expenses related to training cost will be required to be incurred during MYT Control period for Bhusawal unit 6.

11.4.12.3 The Petitioner submits that for the purpose of estimating training expenses related to flexible operations, MSPGCL has considered a per-employee training cost in the range of Rs. 30,000 to Rs. 40,000, inclusive of travel expenses, to be incurred over the MYT Control Period of 5 years. As on date, Bhusawal TPS Unit 6 has a sanctioned headcount of 308 technical employees who are required to be trained for flexible operations. On the basis of the aforesaid per-employee cost estimate and the headcount of technical staff, the total projected training expenditure for flexible operations works out to approximately Rs. 1 Crore over the MYT Control Period. The Petitioner respectfully prays that the Hon'ble Commission may be pleased to consider and allow the same.

Table 81: Expense related to training costs for flexible operations of Bhusawal Unit 6 for 5th MYT Control Period (Rs. Crore)

Particulars	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Experience sharing for high flexibility operation in collaboration with EPRI/JICA,/IGEN, CEMPEEP etc.	0.06	0.28	0.28	0.28	0.22

11.4.13 **Incidental Expenses towards Ash Utilisation:**

11.4.13.1 In order to comply the MoEF notification dated 31.12,2021 and subsequent MoP Advisory notification dated 22.02.2022 on ash utilization from coal or lignite thermal power plants. The main motive for these notifications is to achieve 100% utilization of ash. Copies of relevant MoEF notifications are attached as **Annexure-21**.

11.4.13.2 As per the procedure given in MoP advisory guidelines dated 22.02.2022, as the first option the fly ash is to be sold through competitive bidding process and ash remaining unused after option 1 is to be given free of cost. If ash remains unutilized even after the steps taken in option 1 and 2 above, Thermal Power Plant shall bear the cost of transportation of Fly Ash to be provided free to eligible projects. The transportation cost wherever required to be borne as per provisions of MOEF & CC notification by the power plants, shall be discovered on competitive bidding basis only.

11.4.13.3 MSPGCL submits that upon review of the prevailing trend of 100% ash utilisation at Bhusawal Thermal Generating Station, no additional Ash Disposal support expenses shall be projected for the MYT Control Period. If any expenses are incurred due to unutilised fly ash in the MYT Control Period, the same would be incorporated in the filing of the Final True up.

11.4.14 **Renewable Generation Obligation (RGO) and RE Bundling plan for 5th MYT Control period**

Renewable Generation Obligation (RGO):

11.4.14.1 As per Ministry of Power Resolution dated 27.02.2023, regarding Renewable Generation Obligation (RGO), following is specified:

"…………

2.0 In pursuance of clause 6.4 (5) of the Tariff Policy 2016, it has been decided that any generating company establishing a coal/lignite-based thermal generating station and having the Commercial Operation Date (COD) of the project on or after 1st April 2023 shall be required to establish renewable energy generating capacity (in MW) i.e. Renewable Generation Obligation (RGO) of a minimum of forty percent (40%) of the capacity (in MW) of a coal/lignite-based thermal generating station or procure and supply renewable energy equivalent to such capacity.

3.0 A coal/lignite based thermal generating station with Commercial Operation Date (COD) of the project between 1st April 2023 and 31st March 2025 shall be required to comply with RGO of 40% by 1st April 2025, and any other coal/lignite based thermal generating station with Commercial Operation Date (COD) of the project after 1st April 2025 shall be required to comply with RGO of 40% by the COD."

11.4.14.2 MoP vide letter dated 06.08.2025 has issued clarification on RGO, the relevant excerpt of the letter is as given below:

"3. This ministry has received representations seeking clarification. regarding RGO compliance through subsidiaries. After careful consideration, it is clarified that RE generated or procured and supplied by wholly owned subsidiary of the Generating company or wholly owned subsidiary of any of the companies of a Joint Venture (JV) company shall be counted towards RGO compliance for the Generating Company or the JV company establishing Coal/ Lignite based thermal generating station. ***It is also clarified that establishment of a minimum capacity of Renewable Energy generation sources or purchase and supply the renewable energy equivalent to such capacity, as mentioned in the subject notification is voluntary."***

11.4.14.3 In view of the above clarification, the Petitioner most respectfully submits that RGO compliance can be made through RE generation, procurement and supplied by wholly owned subsidiary of Generating company or wholly owned subsidiary of JV company. Further, said clarification also states that minimum capacity of Renewable Energy generation sources or purchase and supply of renewable energy equivalent to such capacity is voluntary.

11.4.15 **RE Bundling plan for 5th MYT Control Period:**

11.4.15.1 Ministry of Power (MOP) has notified the revised "Flexibility in Generation and Scheduling of Thermal Power Stations to reduce emissions" scheme ("RE Bundling scheme") on 12th April 2022, by repealing the scheme notified on 15th November 2021. As per the RE Bundling scheme, generating companies are allowed to utilize renewable energy for supplying power against their existing commitments/PPA. The relevant excerpt of the RE Bundling scheme is reproduced below.

> *"2.3 The Generating companies shall be allowed to utilise such renewable energy for supplying power against their existing commitments/PPAs i.e., replacement of Thermal/Hydro power to procurers anywhere in India…………"*

11.4.15.2 Subsequently, as per para 3.2 of Amendment dated 21st June 2023 in the RE Bundling Scheme, a Central or State Generating Company may establish a RE power plant, which is not co-located within the premises of its generating station, through competitive EPC tendering mode, after taking authorisation from the appropriate Government.

11.4.15.3 As per para 3.1 of RE bundling scheme Amendment dated 21st June 2023, in case RE power plant co-located within the premises of a generating station under section 62, the appropriate Commission shall determine the tariff of such RE power supplied.

11.4.15.4 Further, para 3.3 of Amendment stated that in all other cases except para 3.1 and para 3.2, RE shall be procured on a competitive basis. The relevant extract of the para provided in above mentioned amendment to RE Bundling scheme is reproduced as under:

> *"3.1. In case of RE power plant co-located within the premises of a Generating Station under section 62, the appropriate Commission shall determine the tariff of RE supplied. Provided that such RE power plant shall be established through a competitive EPC tendering.*
>
> *……………..*
>
> *3.2. A Central or State Generating Company may establish a RE power plant, which is not co-located within the premises of its Generating station, through*

competitive EPC tendering mode, after taking authorisation from the appropriate Government.

3.3. In all other cases except para 3.1 and 3.2, RE shall be procured on competitive basis."

11.4.15.5 In continuation to the RE Bundling scheme dated 12th April 2022, the Hon'ble MOP, through a letter dated 26th May 2022 has specified the thermal stations which have to replace the thermal power with the equivalent RE capacity to be developed. The letter specifies the Plant wise trajectory of RE capacity development during the period between FY 2023-24 to FY 2025-26. As per the aforesaid letter, MSPGCL has been given the target to replace 3259 MUs with an equivalent RE capacity of 1692 MW. The plant wise trajectory specified by MOP is provided below.

Table 82: RE Bundling Scheme - Plant wise trajectory for MSPGCL (in MW)

Station Name	Target
Bhusawal TPS	251
Chandrapur	529
Khaparkheda	312
Koradi TPS	454
Nasik TPS	26
Paras TPS	99
Parali TPS	21
Total	**1692**

11.4.15.6 Based on the trajectory specified by MOP, the Petitioner has planned capacity addition plan under the RE bundling scheme. The envisaged RE Bundling details of the MSPGCL's thermal power stations and its present stations is provided below.

Table 83: MSGPCL's RE Bundling plan for the 5th Control Period

S N	Bundling with/ Capacity planned	Name of the Project	Capacity	Present status
1	Bhusawal TPS (251 MW)	Dondaicha	250 MW	Completion of demarcation /fencing of entire land parcel is in progress.
2	CSTPS Unit-3-7 (529 MW) CSTPS	Lakhmapur	65 MW	DPR prepared. Mahagenco Administrative approval received for development of project.
		Erai Floating Solar	105 MW	Mahagenco is in discussion with SJVNL to develop this project in revenue share basis
		1200 MW EPC with land solar projects (2 phases of 600 MW each)	360 MW	Tender published on 11.10.2023 for 600 MW Ph-I EPC with land solar power projects & LOA issued for 400MW capacity which can be considered for 360MW bundling capacity.

S N	Bundling with/ Capacity planned	Name of the Project	Capacity	Present status
3	Khaperkheda TPS (312 MW)	1200 MW EPC with land solar projects (2 phases of 600 MW each)	320 MW	Tender published on 11.03.2024 for 600 MW Ph-II EPC with land solar power projects & LOA issued for 500MW capacity. *(360+320 =680 MW)*
4	Koradi TPS (454 MW)	TPS Projects	52 MW	Project execution activities are in progress
		1200 MW EPC with land solar projects (2 phases of 600 MW each)	400 MW	• Tender published on 11.03.2024 for 600 MW Ph-II EPC with land solar power projects & LOA issued for 500MW capacity. • Tender Published on 11.10.2024 for balance 300MW capacity, LOA placement is in process. *(680+400=1080 MW)*
5	Paras TPS (99 MW)	Paras Solar	62 MW	LoA placed to EPC contractor on 19.10.2023. SCOD is 15.11.2024.
		1200 MW EPC with land solar projects (2 phases of 600 MW each)	50 MW	Tender Published on 11.10.2024 for balance 300MW capacity, LOA placement is in process. *(1080+50=1130MW)*
6	Nashik TPS (26 MW)	Sakri-I	25 MW	Project commissioned on Aug 24, 2024. Power sale is on IEX.
7	Parli TPS (21 MW)	Sakri-II	25 MW	Project commissioned on Aug 24, 2024. Power sale is on IEX and third-party sale with M/s SEZ Biotech under open access
8	Paras TPS (99 MW)	40MW Washim & 50MW Yavatmal	90MW	LoA placed to EPC contractor on 09.10.2024 Project execution work is in progress.
Total RE Bundling Planned			**1804 MW**	

11.4.15.7 The aforesaid clarification issued by the Ministry of Power states that the Renewable Generation Obligation (RGO) is voluntary, hence it appears that Renewable Generation obligation is relaxed. Considering the same, the Petitioner has been adding renewable energy capacity under the RE Bundling Plan. In view of this, the Petitioner respectfully submits that compliance with RGO and RE bundling for Bhusawal Unit 6 is being ensured through the aforesaid proposed RE capacity addition plan.

11.4.16 **Supplementary charges**

11.4.16.1 The Regulation 15 (D) of MERC DSM Regulations, 2019 provides for supplementary billing for the short fall in funds in the State Deviation Pool Account. As per the said provision, shortfall in State pool, if any, at the end of the weekly settlement period shall be recovered by levy of additional charge from the State Entities in proportion to Net Deviation Charges Payable by concerned State Entity for the applicable weekly settlement period through supplementary bills. The relevant extract of the Regulation is reproduced herein below:

> *"15 (D)*
>
> *……….*
>
> *Provided that, the short fall in funds in the State Deviation Pool Account; if any, at the end of the weekly settlement period shall be recovered by levy of additional charge from the State Entities in proportion to Net Deviation Charges Payable by concerned State Entity for the applicable weekly settlement period through supplementary bills."*

11.4.16.2 The Hon'ble Commission in its Order dated 11 October 2023 in Case No 204 of 2022 directed MSLDC to issue the draft supplementary bills to the concerned State Entities for their verification and then discuss the issue regarding recovery of these bills in the MSPC meeting along with corrections, if any, suggested by the State Entities on the draft supplementary bills. MSLDC has revised the supplementary bill and raised a demand of Rs 70,63,64,903/- as per its Invoice dated 9 May, 2025 towards shortfall in funds in the State Deviation Pool Account for the period FY 2021-22 to FY 2024-25, in accordance with Regulation 15 (D) of DSM Regulations, 2019.

11.4.16.3 Similarly, for Bhusawal Unit 6, it is anticipated that expenses towards supplementary bills, on account of shortfall of funds in the State Deviation Pool Account, will be required to be paid by the Petitioner. Accordingly, the Petitioner has estimated the supplementary expenses for Bhusawal Unit 6 during the 5th MYT Control Period, as detailed in the table below. The Petitioner respectfully submits that these estimated expenses have not been factored into the ARR proposed for the 5th MYT Control Period.

Table 84: Annual supplementary charges for Bhusawal Unit 6 for 5th MYT Control Period for (Rs. Crore)

Particulars	Formula	Amount
Supplementary charges for FY 21-22 to FY 24-25	a	70.64
Annual Supplementary Charges for capacity of 9960 MW of Mahagenco	b=a/4	17.66
Estimated annual supplementary charges for Bhusawal Unit 6 (1x660 MW)	c=b/9960*660	1.17

11.4.16.4 In view of above, the Petitioner request the Hon'ble Commission to approve the supplementary expenses of Rs.1.17 Crore per year for each year of the 5th MYT Control period and allow the recovery under fixed charges on monthly basis for MYT

Control period, subject to reconciliation of the same during True Up of respective years.

11.4.17 Annual Revenue Requirement (ARR)

11.4.17.1 In light of the above submission with respect to all the elements of ARR for Bhusawal unit 6 in foregoing section of this Petition, following is the summary of ARR of Bhusawal Unit 6 for 5th MYT Control Period.

Table 85: ARR of Bhusawal Unit 6 for 5th MYT Control Period for (Rs. Crore)

Particulars	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
	Normative	Actual	Projection			
O&M Charges $	168.48	168.48	175.79	183.44	191.38	199.66
Additional O&M Charges - ECS	-	-	0.48	1.00	1.05	1.09
Water expenses	45.51	45.51	50.06	63.30	137.44	228.22
Depreciation	306.29	306.29	326.74	345.05	348.34	348.21
Interest on Loan	455.36	455.36	461.64	462.28	435.51	404.94
Interest on WC #	61.87	65.53	68.47	71.39	73.93	76.45
Interest on WC - ECS	-	-	0.05	0.06	0.06	0.06
Other expenses	39.69	39.69	43.66	48.03	52.83	58.11
Flexible Operation - training expenses	0.06	0.06	0.28	0.28	0.28	0.22
Ash disposal expenses	-	-	-	-	-	-
Return on Equity	137.41	137.41	152.44	165.89	168.28	168.89
Less: Non-Tariff Income	1.06	1.06	1.11	1.17	1.23	1.29
Total AFC	**1,213.60**	**1,217.26**	**1,278.49**	**1,339.56**	**1,407.85**	**1,484.58**
Fuel Cost #	1,398.96	1,535.14	1,599.20	1,651.68	1,696.59	1,747.48
Fuel Cost - ECS	-	-	0.02	0.03	0.03	0.03
Total ARR	**2,612.56**	**2,752.40**	**2,877.70**	**2,991.27**	**3,104.47**	**3,232.10**

Note:

normative Fuel cost as per operational parameters have been computed and corresponding impact on IoWC has been calculated under normative column for FY 2025-26 in above table.

$ Actual O&M expenses as per audited accounts are not available at this stage, hence considered as per normative.

11.4.17.2 The Petitioner request the Hon'ble Commission to approve the ARR for the Control Period as summarized in the above table.

11.5 Summary of Fixed Charges & Energy Charges

11.5.1.1 As per component wise charges discussed in forgoing sections, the following table summarizes the Fixed and Energy Charges for the Control Period FY 2025-26 to FY 2029-30:

Table 86: Annual Fixed charges and Energy charges for the Control Period for Bhusawal Unit 6

Particulars	UoM	Formula	FY 2025-26		FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
			Normative	Actual (Un-audited)	Projection			
Total Annual Fixed Charges	Rs. Crore	a	1,213.60	1,217.26	1,278.49	1,339.56	1,407.85	1,484.58
Working of Normative Energy Charge Rate (Rs. kWh)								
Total Normative Net Generation (excluding additional aux towards ECS)	MU	b	3,907.79	3,853.97	4,631.78	4,644.47	4,631.78	4,631.78
Total Net Generation (including additional aux towards ECS)	MU	c	3,907.79	3,853.97	4,626.87	4,634.62	4,621.96	4,621.96
Total Fuel Cost (excluding reagent cost)	Rs. Crore	d	1,398.96	1,535.14	1,599.20	1,651.68	1,696.59	1,747.48
Reagent cost	Rs. Crore	e	-	-	0.02	0.03	0.03	0.03
Total Fuel Cost (including reagent cost)	**Rs. Crore**	**f=d+e**	**1,398.96**	**1,535.14**	**1,599.21**	**1,651.72**	**1,696.62**	**1,747.52**
Energy Charge Rate (excluding reagent cost)	**Rs.kWh**	**g=d/b*10**	**3.580**	**3.983**	**3.453**	**3.556**	**3.663**	**3.773**
Energy Charge Rate (Including reagent cost)	**Rs.kWh**	**h=f/c*10**	**3.580**	**3.983**	**3.456**	**3.564**	**3.671**	**3.781**
Impact of reagent cost	**Rs.kWh**	**i=g-f**	**-**	**-**	**0.004**	**0.008**	**0.008**	**0.008**

11.5.1.2 The Petitioner request the Hon'ble Commission to approve fixed charges and energy charge rate as tabulated above for the 5th MYT Control Period of Bhusawal Unit 6 for supply of power to MSEDCL.

11.5.1.3 The detailed working model for tariff calculation of Bhusawal unit 6 for the Control Period is attached as **Annexure-1** to this Petition.

12 Other Matters sub-judice before APTEL

12.1.1.1 MSPGCL has preferred an appeal in APTEL (Appeal No 501 of 2023) against the Hon'ble Commission's Order in Case No. 227 of 2022 dated 31.03.2023 and on the following issue:

a) Adjustment of LPS billed against actual IoWC leading to lower net entitlement of IoWC and thus lower true up amount - for FY 19-20, FY 20-21 and FY 21-22
b) Issue regarding GCV margin norm remaining stringent as compared to actual GCV gap between "As Billed" to "As received" GCV.

12.1.1.2 MSPGCL has preferred an appeal in APTEL (Appeal No 175 of 2025) against the Hon'ble Commission's Order in Case No. 187 of 2024 dated 28.03.2025 and on the following issue:

a) Erroneous computation of Interest on Working Capital (IOWC) for FY 2022-23 to FY 2024-25 which has been adjusted against the late payment surcharge that is yet to be received by MSPGCL
b) The non-consideration of loss of notional interest impact due to recovery of accumulated outstanding dues in instalments spread over 48 months for FY 2022-23 to FY 2024-25.
c) The disallowance of Gross Calorific Value (GCV) variation between GCV as billed and GCV as received for FY 2022-2023 to FY 2024-25

12.1.1.3 The Petitioner submit that the aforementioned Appeal filed the Hon'ble APTEL which have direct bearing on this Petition.

12.1.1.4 The judgment on the Appeal is yet to be pronounced. Hence, the Petitioner reserves its right to its claim as per the outcome of the Appeal.

13 Prayers

13.1.1.1 The Petitioner respectfully prays the Hon'ble Commission to:

i. Admit this Petition;

ii. Allow Petitioner to submit additional information as may be required by the Hon'ble Commission;

iii. Grant an expeditious hearing of this Petition;

iv. To allow construction period of 55 months (considering 13 months extension) on account of Covid-19 as force majeure and accordingly allow IDC as part of capital cost.

v. To approve the capital cost as on CoD of Bhusawal Unit 6 considering construction period of 52 months.

vi. Consider the submission made regarding halting commissioning of FGD system, in view of CEA MoM dated 25.07.2025 for Category C power stations, with claiming only till date incurred "capex" for MYT tariff purpose.

vii. Approve the tariff of Bhusawal Unit 6 for sale of power to MSEDCL for FY 2024-25 and 5th MYT Control Period FY 2025-26 to FY 2029-30;

viii. Approve the provisional True Up for FY 2024-25 based on the tariff approved for FY 2024-25 in response to the present Petition;

ix. Condone any error/omission in the filing of the petition and to give opportunity to rectify the same;

x. Permit the Petitioner to make further submissions, addition and alteration to this Petition as may be necessary from time to time;

xi. Pass any such other order/s and or direction/s, which the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

Petitioner

Chief Engineer – RCD

MSPGCL

ANNEXURES