

## Before the Maharashtra Electricity Regulatory Commission, Mumbai

Submission in Case no: 227 of 2022

Date: 19<sup>th</sup> January 2023

## IN THE MATTER OF

Mid Term Review petition filed by Maharashtra State Power Generation Company Ltd (MSPGCL) for approval of final true up for FY2019-20, FY2020-21 and FY2021-22, Annual Performance Review and provisional true up for FY2022-23 and approval of revised aggregate revenue requirement and revised tariff for the balance control period FY2023-24 to FY2024-25 & provisional tariff for upcoming Bhusawal unit 6.

## SUBMISSION FROM PRAYAS (ENERGY GROUP)

MSPGCL filed a midterm review petition for the final true up of FY FY2019-20, FY2020-21 and FY2021-22, provisional true up of FY2022-23, and approval of revised tariff for FY2023-2024 and FY2024-25. A public notice in this regard was issued on 29<sup>th</sup> December 2022, which also stated that a public hearing will be held on 31<sup>st</sup> January 2023. We request the MERC to consider our submissions on record.

## 1. Need for rational projection of generation:

The MSPGCL petition projects coal-based generation and coal requirement for the second half of FY23, and all of FY24 and FY25. These projections, however, estimate very high growth rates for FY23 and FY24 and an unrealistic 0% growth for FY25, as captured in Table 1.

Table 1. Projected growth rate of MSPGCL's coal-based generation

	FY22	FY23	FY24	FY25
Coal-based Generation (MU)	47919.7	61701.6	70736.2	70736.2
Growth (%)		29%	15%	0%

Source: Prayas (Energy Group) compilation based on MSPGCL data formats

Based on data compiled from CEA's generation reports, MSPGCL's coal-based generation has seen a maximum year-on-year growth of 9% in the last seven years, from FY16 onwards. It is important to note that even this 9% growth was recorded in FY22, as a result of recovery from suppressed demand during the pandemic. In contrast, an annual growth of 29% and 15% is projected for FY23 and FY24.

Coal-based generation for the second half of FY23, FY24 and FY25 are projected at estimated fleet-average PLFs of approximately 85%, 79% and 79% respectively. These are much higher than historically observed fleet-average PLFs of MSPGCL's coal-based generation, which has not exceeded 60% in the last six years. These steep increases in estimated generation are not justified by any data or analysis, and lead to unrealistically high coal requirement and aggregate revenue

requirement (ARR). This is despite the Commission repeatedly disallowing the high availability and PLF claims of MSPGCL in past orders, as it will affect MSEDCL's power purchase planning and lead to increased costs. Relevant portions of the Commission's ruling in Case 296 of 2019 is reproduced below:

*"7.4.3 The Commission in its MYT Order for the 3rd Control Period had projected the Availability of MSPGCL's Stations based on the actual Availability during the immediately preceding three years and accordingly, reduced the AFC on prorata basis for those stations whose projected Availability was lower than the target. MSPGCL in its Review Petition in Case No. 138 of 2016 sought review of the Commission's decision in this regard. The Commission vide its Order dated 3 July, 2017, rejected the Review Petition.*

*7.4.4 The Commission continued with the same approach of projecting availability based on past trends in its MTR Order dated 12 September, 2018.*

*7.4.5 As discussed in previous sections, the actual availability of most of MSPGCL's Stations has been consistently lower than the normative in FY 2017-18 and FY 2018-19. The Commission has been disallowing the Fixed Cost for not achieving the Target Availability, in accordance with the Tariff Regulations, in the truing-up for the respective years. As the availability for subsequent years is projected at the normative level, the energy available from MSPGCL's Stations is also projected at normative levels, while MSPGCL has been unable to achieve the normative availability in most of the Stations. With this approach, MSPGCL initially recovers the entire Fixed Charges corresponding to normative Availability, and these are proportionately reduced considering the actual Availability during truing-up. It is therefore more appropriate to project the realistic Availability based on past trends." [Emphasis added]*

In light of this, the Commission should disallow the unrealistically high claimed availability, PLF, and generation projected by MSPGCL, and direct MSPGCL to adopt realistic and analysis based projections in all its future submissions.

## 2. Potential ARR savings from rational projection of generation:

Projecting MSPGCL's FY23 coal-based generation based on April-December 2022 generation data published by CEA results in a 10% growth for FY23. Historically, MSEDCL's annual demand growth rate has been below 6%. Considering this range of 6% to 10% annual growth for MSPGCL's coal based generation for FY24 and FY25, back of the envelope calculations suggest that MSPGCL's ARR can be reduced by about Rs. 18,200 to 21,300 Crore over the remaining control period, as shown in Table 2.

These savings are estimated using indicative calculations, in which the highest cost generation is eliminated to achieve the revised generation target<sup>1</sup>. Actual savings will also depend on other factors such as demand supply situation, load shapes and MoD stack, but is likely to be of the

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<sup>1</sup> PEG will be happy to share details of these calculations if needed

same order of magnitude. Given these indicative savings, the Commission should approve a reduced ARR for the remaining control period.

Table 2. Indicative savings from realistic projection of generation

	FY23	FY24		FY25		Total	
	10% GR	10% GR	6% GR	10% GR	6% GR	10% GR	6% GR
Coal-based generation claimed (MU)	61,702	70,736	70,736	70,736	70,736		
Revised coal-based generation (MU)	52,400	57,639	55,543	63,403	58,876		
MSPGCL ARR as claimed (Rs. Crore)	31,962	37,537	37,537	40,116	40,116		
Indicative ARR for revised coal-based generation (Rs. Crore)	27,151	29,603	28,700	34,681	32,418		
Indicative savings in ARR (Rs. Crore)	4,811	7,934	8,837	5,521	7,698	18,266	21,346

Source: Prayas (Energy Group) estimates based on MSPGCL data formats

### 2.1. Questionable need for imports:

Imports are the costliest source of generation and can be completely eliminated from Oct 2022, in order to meet the revised generation estimates. This contributes an estimated savings of about Rs. 13,400 Crore, which forms the bulk of the total savings. The remaining savings in our indicative calculations come from reduced generation from stations such as Nashik and Parli with high variable cost.

Historically, MSPGCL has had minimal dependence on imported coal for its generation. Even in April-May 2022 when coal supply could not keep up with unexpected increase in electricity demand, MSPGCL only imported about 1.2 MMT coal in April-September 2022. Further, according to data published by CEA, the growth in domestic coal supply to MSPGCL between April-November 2021 and April-November 2022 (13%) was greater than the growth in MSPGCL's coal-based generation in the same period (10%). Also, according to the Ministry of Coal, domestic coal production has grown by as much as 16% in April-December 2022 and it aims to increase domestic coal production to over a billion tonnes in FY24<sup>2</sup>. It also aims to have a significant domestic coal stock of 118 MMT by March 2023 to avert a crisis situation during the peak power demand period of April-May<sup>3</sup>. Therefore, there should be no need for MSPGCL to import any coal to meet realistic demand given its existing domestic linkages and FSAs. We submit to the Commission that it should only allow ECRs for all stations assuming no imported coal is required. This might mean that, for many stations, the ECR approved in the MYT order can be retained or

<sup>2</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1891957>

<sup>3</sup> <https://www.livemint.com/industry/energy/centre-aims-118-million-tonne-of-domestic-coal-stock-by-march-2023-11673539067821.html>

reduced. In the unlikely event that MSPGCL needs to import coal, such cost should not be passed through by default (including through FAC). Instead MSPGCL should approach the Commission to get cost approval before undertaking such imports, and the Commission should undertake due prudence check based on analysis, after inviting participation from beneficiaries like MSEDCL.

### 3. Coal quality:

MSPGCL has requested that the entire variation in coal GCV between loading and unloading points be passed through. Similar treatment was asked by the generating company during the multi-year tariff proceedings, but the Commission, in Order 296 of 2019, rightly did not allow the losses on account of variations in its entirety. It stated that allowing the entire variation to be passed through would provide no incentive for MSPGCL to control GCV loss. GCV loss of 300 kcal/kg during transit is already allowed as per Clause 50.6 of MERC MYT Regulations, 2019, in addition to stacking loss. The Commission further introduced additional tapering relaxations till FY25 to incentivise gradual reduction in GCV loss. However, as per data submitted by MSPGCL, variations in GCV between loading and unloading continue to be high, averaging at around 769 kcal/kg over the last 5 years (FY19-FY23). As per the petition, the deviations for certain stations are as high as 900-1000 kcal/kg. Despite the provisions made by the Commission to enable reductions in GCV variations, little has been achieved by MSPGCL, and it continues to seek waivers for coal quality slippages.

MSPGCL's claims for relaxation and pass-through of costs arising out of GCV degradation between loading and unloading points are completely untenable, as explained below:

Most of MSPGCL's coal purchase from coal companies is governed by the Fuel Supply Agreement (FSA) signed with CIL or its subsidiaries. As per the model FSA published by CIL, if MSPGCL is unhappy about the quality of coal at the loading point, Clause 4.7.3 (ii)(d) provides the mechanism for dispute resolution. Since MSPGCL has not resorted to this dispute resolution mechanism, it has no valid grounds to claim that it has concerns regarding the GCV at loading point.

Further, Para 7 of CIL's model Fuel Supply Agreement (FSA) states,

#### *"7. Transfer of Title to Goods*

*Once delivery of coal have been effected at the Delivery Point by the Seller, the property/title and risk of Coal so delivered shall stand transferred to the Purchaser in terms of this Agreement. Thereafter the Seller shall in no way be responsible or liable for the security or safeguard of the Coal so transferred. The Seller shall have no liability, including towards increased freight or transportation costs, as regards missing/diversion of wagons/rakes or road transport en-route, for whatever causes, by Railways, or road transporter or any other agency."*[Emphasis added]

Given this, the coal becomes MSPGCL's property at the loading/delivery point and all the risks thereafter are transferred to it. Thus, even though MSPGCL claims in para 10.4.1.2 of its petition that *"till the time unloading of coal has happened, the coal has not even been handled by*

*Mahagenco*", it is clear that MSPGCL is solely responsible for preserving the quality of coal between loading and unloading points.

Since MSPGCL has not resorted to the dispute resolution mechanism for poor coal quality at loading end, and the responsibility of the coal passes to MSPGCL thereafter, MSPGCL has no valid grounds to claim relaxation in costs due to coal quality variation between loading and unloading points, which would unduly burden electricity consumers.

Adhering to coal quality as per the provisions in the Regulations (300 kcal/kg during transit and 125 kcal/kg stacking loss) can result in estimated reduction in energy costs by around Rs. 1,800 to 2,000 Crore, over the remaining control period. Therefore, the Commission should not permit any relaxation in coal quality beyond that in the Regulations. Moreover, in light of the FSA clauses, the Commission may also wish to consider whether the Regulations themselves need to be amended to further tighten the relaxation given in coal quality between loading and unloading points.

#### 4. Coal supply management:

- a. ACQ entitlement: As per its FSA, MSPGCL's thermal power plants are entitled to coal quantities equivalent to their Annual Contracted Quantity (ACQ). Generation based on domestic linkages and FSAs is the cheapest source of generation. Therefore, in periods of high generation requirement, MSPGCL must strive to procure the entirety of its ACQ, to minimise cost of generation.
- b. Consideration of e-auction: As part of its fuel utilisation plan for the second half of FY23 and beyond, MSPGCL does not consider e-auction as an avenue to procure coal even in the eventuality of a shortage, citing that "*coal prices under e-auction route in the recent past are generally higher than the Mine specific, MoU coal available with Mahagenco*". However, surprisingly, MSPGCL does not rule out imports as an option in such situations, though imported coal is much costlier than e-auction coal. Compared to the imported coal price quoted in the petition, e-auction coal is around Rs. 10,000/MT cheaper. Thus, e-auction should be the preferred mode of coal procurement as compared to imports.
- c. Publishing Fuel Utilisation Plan: As per Clause 40.6 of the MERC MYT Regulations 2019, MSPGCL is required to publish on their website monthly data on actual station wise performance of fuel utilisation with justification of deviations from the fuel utilisation plan submitted. Such timely and transparent reporting would have made sector trends apparent and could have helped in pre-empting and planning for the shortage in early FY23. However, MSPGCL does not publish such information on its website, and it should publish such data as per Regulations.

We request the Commission to give directives to MSPGCL as suggested above.

#### 5. Dues from MSEDCL:

As per MSPGCL's annual report of FY21, MSEDCL's outstanding dues to MSPGCL are about Rs. 27,000 Crore, which is more than MSPGCL's ARR for FY22. Despite this huge outstanding amount,

the petition does not refer to this at all. Such dues lead to higher working capital borrowings, resulting in higher costs, and perhaps inability to pay coal companies, leading to inadequate coal supply. This is even more grave considering the strict 48 month timeline provided under Clause (5) of the Late Payment Surcharge Rules notified by the MoP in June 2022 for liquidation of arrears. Clause 6(3) of the Rules states that,

*“(3) The supply of power shall only be made if an adequate payment security mechanism is maintained or in the absence thereof, advance payment is made:  
Provided that in case the generating company supplies power without the payment security mechanism or without advance payment, it shall lose the right to collect the late payment surcharge from the distribution licensee:  
Provided further that in case of non-payment of outstanding dues by the default trigger date, the obligation of the generating company to supply power shall be reduced to Seventy five per cent of the contracted power to distribution licensee and balance Twenty five per cent of contracted power may be sold by the generating company through the Power Exchanges.  
Provided also that if the distribution licensee does not establish payment security mechanism or continues to default in payment of outstanding dues for a period of thirty days then the generating company shall be entitled to sell 100 per. cent of the contracted power through Power Exchanges.”*  
[Emphasis added]

Therefore, if MSPGCL does not take action to recover its dues, it may perhaps even lose its claim on such dues. Given the likely serious financial impact, MSPGCL should provide an action plan for recovery of dues and compliance with the rules.

The only related issue discussed in the petition (Para 6.2.8.7) is pertaining to a dispute with MSEDCL in methodology for computing late payment surcharge. The reconciliation of this dispute would have impact on consumer tariffs, and therefore, the Commission should ensure this matter is addressed through a dedicated public process instead of a bilateral process between MSPGCL and MSEDCL.

## 6. Coal availability from Gare Palma II:

Given various delays, only minimal coal production from Gare Palma II is expected to happen in this control period, as projected by MSPGCL. In Para 10.3.1.12 of the petition, it states *“Since the quantum of coal envisaged in the initial years is miniscule, MSPGCL will submit the details regarding actual production schedule and expected prices based on CPI and WPI movements in the FAC submission”*. Coal from this captive mine was approved for utilisation by units of the Koradi thermal station and can also be blended with other existing linkages, as required, resulting in significant impact on MSPGCL operations once production is scaled up. Given such impact, the approval of actual costs and production should take place through a separate and dedicated public consultation process. rather than through the FAC process. The MDO contract of Gare Palma II should also be made available for public review during the public cost approval process.

Also, Gare Palma II is a captive mine allotted to MSPGCL, and an objective of offering coal mines for captive use is to reduce power tariffs, the procurement of coal from such captive mines should be at a price lower than CIL's notified price. Thus, we submit that the Commission should require MSPGCL to approach it for cost approval of Gare Palma II through a separate public process, make its MDO contract available for public review and ensure that the price approved for coal procurement does not exceed CIL's notified price for an equivalent grade of coal.

#### 7. Cost benefit analysis of washed coal:

In Para 8.3.3 of Case 296 of 2019, MERC directed MSPGCL to *"carry out the proper cost benefit analysis of coal beneficiation after receiving the tenders and before going ahead for placing the contracts for coal beneficiation. MSPGCL should try to ensure that the effective landed price of washed coal at thermal Station in terms of Rs/Kcal is lower than the landed price of coal at thermal station in terms of Rs/Kcal"*.

MSPGCL, in para 13.3.3.1 of its petition, states that such analysis has been submitted as part of its Fuel Utilisation Plan. However, the referred section only discusses contract details, costs and quantities of washed coal. It does not carry out the requisite cost benefit analysis for the control period and does not validate that the effective landed price of washed coal at thermal stations in terms of Rs/Kcal is lower than the landed price of (raw) coal at thermal station in terms of Rs/Kcal. The Commission should ensure that MSPGCL submits a detailed cost benefit analysis and validates reported improvements in GCV through coal beneficiation, and should not approve any associated costs until such details have been submitted and scrutinised.

#### 8. Reconsideration of TPP retirement:

MSPGCL had planned to retire some of its thermal generating units based on their vintage during the current control period. In the current petition, it is reconsidering this decision and has decided to continue operations from some of these old stations by carrying out necessary Renovation & Modernisation (R&M). Additionally, MSPGCL is planning to carry out Remaining Life Assessment (RLA) for all thermal units that have completed more than 25 years of life. As discussed in PEG's report<sup>4</sup>, early age-based retirements can prove counterproductive given the dynamic demand and supply trends in the sector. Thus, the decision to reconsider the retirement of 'old' MSPGCL plants is a step in the right direction.

But any decision regarding addition, retaining, or retirement of capacity has significant cost and operational impacts and therefore must be carried out only after comprehensive analysis at the

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<sup>4</sup> Early Age-based Retirement of Coal Power Plants: Misplaced emphasis?  
(<https://energy.prayaspuene.org/our-work/research-report/early-age-based-retirement-of-coal-power-plants-misplaced-emphasis>)



state/distribution utility level<sup>5</sup>. Given the scale of impact, it is insufficient that the RLA and R&M expenditure is considered as routine CapEx approval as part of the ARR, and must be subject to a dedicated scrutiny and approval process. The current submission does not include capitalisation for such RLA and R&M. We submit that the Commission direct MSPGCL to file a separate petition regarding the RLA and R&M expenditure, and approve them only after due public process.

#### 9. Adherence to Environmental Norms:

Of MSPGCL's extant 9540 MW coal fleet, 4160 MW (Khaparkheda, Koradi, and Nasik) fall under category A, 2920 MW (Chandrapur) is under category B, and the remaining 2460 MW (Bhusawal, Paras, Parli) falls in category C, as per CEA's categorisation of TPPs, in accordance with MoEFCC's notification of the Environment (Protection) Amendment Rules, 2021. As per the most recent 2022 second amendment of the Environment (Protection) Rules, category A plants are supposed to be in compliance with the SO<sub>2</sub> emission norms within this control period, by December 2024, and category B plants have their timeline for compliance soon after, by December 2025 (unless they are retiring).

Installation of equipment towards adherence to the norms will result in additional costs for the generating company, which can be passed through and any capitalisation on account of delays should be disallowed. Also, delays in compliance will lead to the levy of penalty on noncompliant generation. Given the impact on costs and the disincentive of penalty, timely compliance is crucial. Further, according to CEA's January 2023 report on FGD status, the status of FGD installation for Nasik, a category A plant, has not been updated as it has been slated 'to be decommissioned'. The status for FGD installation in Bhusawal Unit 3 is also similarly recorded. But as noted in MSPGCL's petition, these plants are no longer considered for retirement and must also take action toward compliance. In addition, installation of equipment such as FGD to adhere to SO<sub>2</sub> emission norms requires significant gestation period of up to two years or more. Therefore, we request the Commission to direct MSPGCL to publish and regularly (say, every quarter) update the detailed station-wise plan for and status of compliance to the environmental norms on its website.

#### 10. Need for a rigorous and diligent TVS

Many of the problems highlighted in this submission could have been identified early and action could have been taken, if a rigorous and diligent TVS involving more stakeholders had been conducted. For example, the unrealistically high generation projections of MSPGCL, the lack of mention of the problems arising out of outstanding dues from MSEDCL and the various errors in the tariff formats (discussed further in Section 12), could all have been identified and fixed. Therefore, we request the Commission to ensure that such rigorous TVS involving a wide variety of stakeholders takes place for all such important tariff processes.

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<sup>5</sup> Look before you leap: An approach for phasing down coal from India's power sector (<https://energy.prayasgroup.org/our-work/research-report/look-before-you-leap-an-approach-for-phasing-down-coal-from-indias-power-sector>)



### 11. Rethinking MSPGCL's business model

Currently, MSPGCL's generation fleet consists of coal, hydro and gas sources, and is dominated by coal-based stations. Driven by changing economics, favourable policies and environmental concerns, the penetration of renewables in the generation mix is steadily increasing and the role of coal-based generation is likely to gradually reduce. This has also been recognized by MSPGCL in its petition. Other big generating companies, such as NTPC have started to diversify their portfolio by planning to install significant renewable capacity. But despite being the state generating company and one of the biggest generating companies in the country, MSPGCL has not made public its long term plans in this regard. Given the growing role of renewables and toward ensuring continuing relevance in a changing scenario, MSPGCL should urgently consider revisiting its business model to include cleaner technologies such as renewables and storage into its mix.

### 12. Issues with tariff formats

The tariff format for stations includes F15, the fuel utilisation plan format, which asks for station wise data in accordance with Regulation 40.3 of MERC's MYT Regulations 2019 (on fuel requirement forecast, quantity and availability from contracted and alternate source, savings in variable cost on account of optimisation, etc.). This format is, however, not currently filled and the data is said to be 'attached separately'. However, such station-wise data is not found in the petition. Given that provision of such data at the station-wise level would enable better planning for shortage, MSPGCL should also submit data for its fuel utilisation plan through the existing F15 tariff format sheet. Additionally, there are some discrepancies in the reporting of calorific value, with the fired value being higher than the received, and in the computation of specific coal consumption which is based on incorrectly calculated gross generation. Excel also notifies a circular reference error for all the tariff format documents.

13. We request the Commission to accept this submission on record and to allow us to make additional submission in this matter, if any. We further request the Commission to allow us to make an oral submission during the public hearing on this matter.

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Prayas (Energy Group), Pune

Place: Pune

Date: 19<sup>th</sup> January 2023