BEFORE THE MAHARASHTRA REGULATORY COMMISSION, MUMBAI

Filling No:_____ Case No. 196 of 2017

Date: 27th August 2018

IN THE MATTER OF

Petition filed by Maharashtra State Power Generation Company Ltd (MSPGCL) for true up of FY 2015-16 and FY 2016-17, provisional true up for FY 2017-18 and revised projection of ARR for FY 2018-19 and FY 2019-20.

Maharashtra State Power Generation Company Ltd

Prayas (Energy Group), Pune

Consumer Representative

Petitioner

SUBMISSION FROM PRAYAS (ENERGY GROUP)

- 1. MSPGCL has filed a petition for true up of FY 2015-16 and FY 2016-17, provisional true up for FY 2017-18 and revised projection of ARR for FY 2018-19 and FY 2019-20. A public hearing in this regard was conducted on 26th July 2018. We were present for the said hearing and have orally submitted our main arguments. This submission captures the same and elaborates on a few points that were briefly stated during the public hearing. We request the commission to kindly condone the delay in sending this written submission and to accept the same on record.
- 2. Context and background: Presently, MSEDCL has contracted excess capacity and around 4000 MW of MSPGCL capacity is planned to be backed down till FY 2020 for which full fixed cost is being paid. In spite of this excess capacity, MSEDCL is buying short-term power at rates higher than the ceiling rate set by the MERC for such procurement, for example MSEDCL petitions under case no. 135 and 181 of 2017. On the other hand, MSEDCL seems to have committed to sell power to BEST (both RTC and peak) for the next few years. The possibility of such sale of surplus power exists only if the capacity that is being backed down, including MSPGCL units, is able to generate when demanded. However, a large part of the MSPGCL capacity has been unavailable when there is demand. MSPGCL has claimed that this is largely due to coal shortage, however there remain many doubts regarding such claims of MSPGCL. Further, while claiming lack of availability on account of coal shortages, MSPGCL is also supposedly simultaneously undertaking Case-IV bidding for allocating its share of coal to other generators. All these factors are a major cause of worry for MSEDCL consumers as inability of MSPGCL to generate adequate power at approved rates can lead to either higher cost of power purchase or load shedding. It is in this context that we request the commission to evaluate the present proposal of MSPGCL.

3. Flexibility in coal management not leading to improved availability or cost savings: In May 2016, the Cabinet approved a proposal for allowing flexibility in utilization of domestic coal to power generating stations. This was done with an objective of reducing cost of generation. As per the approval given by the Cabinet, the Central Electricity Authority (CEA) was asked to issue a methodology for the implementation of the said proposal, after undertaking due consultation with all the stakeholders. Accordingly, in June 2016 the CEA issued a methodology for this purpose. Amongst other things, the said methodology proposes the following:

"...

2. <u>All the source wise-coal company wise long term coal linkages</u> of individual States (States would include UTs) or Centre owned generating stations <u>to be aggregated</u> <u>and consolidated</u> with respective States / (or State notified agency (to be notified from among the existing power utilities)) or company owning the Central Generating Stations (CGSs), as the case may be, instead of individual Thermal Power Stations, <u>to enable efficient coal utilization amongst end use generating stations</u>.

3. The coal company wise Annual Contracted Quantity (ACQ) of each individual coal linkages (as per Fuel Supply Agreement, FSA) to be aggregated as consolidated ACQ for each State and company owning the Central generating stations as the case may be, instead of individual generating stations. The terms and conditions of coal company wise FSA will be applicable on the aggregate ACQ of State as a whole or Company owning Central generating stations as the case may be. However, the FSAs of IPPs would not be aggregated.

4. <u>The utility-wise (Central Generating Company or State notified agency)</u> <u>supplementary agreement would be signed with the CIL and SCCL.</u>

5. <u>To achieve the objective of reduced energy charges the Generating company /</u> <u>State shall communicate to CIL/SCCL its station wise requirement from different coal</u> <u>sources within the ambit of overall ACQ allotted to the Company/ State. If supply</u> <u>from the identified source is not possible/feasible, CIL/SCCL shall have the flexibility</u> <u>of offering coal supply from its various subsidiaries to facilitate assured level of</u> <u>supply for that State and CGS and for meeting MOEF stipulations regarding</u> <u>transportation etc</u>. As far as possible, alternate source of supply of coal of CIL/SCCL <u>shall be of similar landed cost and quality as sought by the Generating</u> <u>company/State</u>.

6. The existing practice of determination of Station-wise energy charges as per applicable Tariff Regulations shall be continued based on station-wise coal accounting with respect to coal quantity, quality and price.

7. The requisition for transfer/supply of coal would be given by the State/Central generating company to the coal companies at least one month in advance from the agreed date of commencement of supply of electricity. <u>The Coal companies will give their consent / response within 15 days from the receipt of requisition, else it will be deemed to be approved. The State notified agency/ Central Gencos having</u>

supplementary agreement will be responsible to ensure supply of transferred coal at the generating stations.

8. The Ministry of Railways would be conveyed for transportation of coal at least one month in advance from the agreed date of commencement of supply of electricity by the State notified agency /Central generating company and the Ministry of Railways would convey their approval or otherwise within 15 days from the date of receipt of request. The Ministry of Railways would endeavor to transport coal as per the requirement given by the State notified agency / Central generating company. However, in case there are some constraints in movement of rakes by the Ministry of Railways, an alternative plan would be made by the State/ Central generating company in consultation with the Ministry of Railways. The State notified agency / Central Gencos would ensure overall optimization of the cost while going for alternative plan. (Emphasis added)

From the above policy notification it becomes clear that the state owned generating companies such as MSPGCL, have flexibility in utilising their coal linkages in a manner that would allow them to optimize the overall cost of generation. In fact, the explicit aim of the policy is to reduce generation cost by rationalising coal linkages. However, it is not clear from MSPGCL's petition whether and how much cost savings have been achieved because of this policy change.

Further, data regarding MSPGCL generating stations shows that generators with lower variable costs do not have highest PLF. Table **1** shows contribution of various generating stations to the total generation and the band in which their variable cost falls. As can be seen, the stations with lower variable cost are operating at PLF of only around 50-55%.

Thormal Canacity with	M	W	PLF		
mermar capacity with	2016-17	2017-18	2016-17	2017-18	
Variable charge > Rs 3 /u	1692	1510	28%	31%	
Variable charge > Rs. 2.5 /u <= Rs. 3 /u	4250	4240	55%	46%	
Variable charge < Rs 2.5 /u	2920	3920	53%	56%	
Total	8862	9670	49%	48%	

Table 1: Capacity, variable charge and PLF

Source: MSPGCL petition in case no 196 of 2017

While it is true that grid constraints and demand and supply situation would dictate the real time generation, from the data above there seems to be room for reducing fuel cost by optimizing generation from units with lower variable charges. This is particularly so when about 4000 MW of capacity (with coal linkages) is going to be practically unused for the next two years.

Considering this, the Commission should undertake a detailed analysis of merit order dispatch of MSEDCL, fuel availability at MSPGCL stations with lower variable cost, and evaluate whether MSPGCL is maximizing generation from its least cost units using the flexibility in coal utilisation.

Further, para 9 of the methodology proposed by the CEA for implementing the flexibility in coal utilisation states as follows:

"To enable utilities identify Stations for transfer of coal, the State/ Central <u>generating company will display information on their respective website and the web</u> <u>portal being developed for this purpose</u>, related to normative fixed and variable charges of electricity for the previous month as well as the margin available for additional generation." (emphasis added)

Given such mandate, the Commission should direct MSPGCL to clearly display on its website the relevant information in this regard. For this purpose, we suggest the following format to which the Commission can add or modify as needed:

Table 2: Suggested format for sharing information regarding optimal coal utilization

Date	Source (mine /subsidiary)	ine allocation γ) (plant / unit)	Original Revised allocation (plant / plant / unit) Revised destination (plant / unit)	ACQ in	Grade /	Grade / Base GCV in Price kcal/kg Rs/ton	Freight price Rs/ton		Mode of
				tons	kcal/kg		Original	Revised	transport for diversion

4. Coal procurement and realization: Lack of adequate coal availability is the reason claimed by MSPGCL for its poor generation in FY 16-17 and FY 17-18. In its petition under case no 151 of 2017, MSPGCL has claimed that its coal realization has significantly worsened since FY 15-16 or FY 14-15. This is counter-intuitive given the overall increase in coal production since FY 14-15. Further, publicly available coal data does not support MSPGCL claims. At the national level, CIL dispatch to power sector from Apr-Nov 2016 to Apr-Dec 2017 increased from 259.8 MT to 278.8 MT – an increase of 7.3%, which was considerably more than the national increase in thermal generation. Data available on SEVA portal shows that dispatch to MSPGCL plants increased by around 17% in Apr-Dec 2017 as compared to 2016. In light of this, it is not clear why MSPGCL is claiming that coal supply was better in previous years as compared FY 17-18 and the Commission should investigate this issue further.

Further, as per the directions of the commission under case no 152 of 2017, MSPGCL has shared certain information regarding source-wise coal allocation for the FY 17-18. The data presented under that is captured in Table **3**. MSPGCL has also shared data regarding coal realization from different coal companies. These claims of MSPGCL are captured in Table **4**.

As can be seen from Table **4**, MSPGCL claims that overall coal realization has dropped from 81% in FY 15-16 to 57% in FY 17-18.

	Coal Quantity (MMT) – FY 2017-18									
TPS	WCL	MCL	SECL	SCCL	Total Qty					
FSA										
Chandrapur	11.89		0.91		12.8					
Koradi	0.5	1.1	1.851		3.451					
Khaperkheda	1.432	3.879	2.001		7.312					
Nasik	2.354		0.724		3.078					
Bhusawal	4.451		2.312		6.763					
Parli	3.419			2.26	5.679					
Paras	2.503				2.503					
Total	26.549	4.979	7.798	2.26	41.586					
		Bridge	Linkage							
TPS	WCL	MCL	SECL	SCCL	Total					
Chandrapur	1.454				1.454					
Koradi	2.169			0.406	2.575					
Khaperkheda										
Nasik										
Bhusawal										
Parli				0.27	0.27					
Paras										
Total	3.623	0.000	0	0.676	4.299					

Table 3: Source-wise coal allocation as reported by MSPGCL for FY 17-18

Table 4: MSPGCL claims regarding coal realisation from different sources

Particulars		WCL	MCL	SECL	SCCL	IMPORT	MAHAGENCO
	Linkage	21992	9206	9130	2766	1141	44235
FY 2015-16	Receipt	19095	6785	5423	3238	1114	35655
	% Mat	87%	74%	59%	117%	98%	81%
	Linkage	27124	120	6597	5436	350	39627
FY 2016-17	Receipt	20034	302	4525	4457	388	29706
	% Mat	74%	252%	69%	82%	111%	75%
	Linkage	38301	4592	7555	8383	-	58831
FY 2017-18	Receipt	25345	2532	1957	3745	-	33579
	% Mat	66%	55%	26%	45%	-	57%

Source: Information shared by MSPGCL

Considering the fact that MSPGCL is entitled to only 45.885 MT of coal as per its contracts for FY 2017-18, it is not clear why MSPGCL has calculated realization based on 58.831 MT of coal allocation. If one computes realization based on the coal supply for which MSPGCL has FSA or a bridge linkage allocated to it (i.e. 45.885 MT), the realization works out to 73% as against 57% as claimed by MSPGCL.

Given such discrepancies, the commission should analyse MSPGCL's claims regarding poor coal realization in light of these factors and also evaluate if any improvements can be made to the coal procurement practices to ensure adequate coal and generation availability.

Further, in order to clarify things and to avoid any issues going forward, we request the commission to direct MSPGCL to publish the following information on its website on a daily basis. We have suggested a format for the same under Table **5** and Table **6**.

This data should be published on a daily basis for each unit that has a valid FSA / MoU / Bridge linkage. Having such data in the public domain can greatly simplify matters and enable continuous monitoring of the situation by the Commission, MSEDCL, as well as the public at large and thus improve transparency and accountability. Further, going forward if there are coal shortages, such reporting will help in raising early warnings and would enable both MSPGCL and MSEDCL in preparing better for such eventualities, if any.

Table 5: Suggested format for capturing data regarding daily coal requisitioning under FSA / bridge linkage / MoU route

Date	Source (mine /subsidiary)	e (mine idiary) Original allocation (plant / unit)	Original Revised Quantity allocation (plant / unit) Unit) Unit Optimized Constraints of the series o	Grade /	Base Price	Frieght price Rs/ton		Mode of					
				tons	kcal/kg	Rs/ton	Original	Revised	diversion				

Following data should be submitted for each station / unit

Table 6: Data regarding coal stock, consumption, generation

Following data should be submitted for each station / unit

Date O st			Gross	Gross SHR			
	Opening stock	Receipt	Consumption	Closing stock	GCV (closing stock)	(kWh)	(kcal / kWh)

5. Coal quality and specific fuel consumption: From FY 15-16 to FY 16-17, it is interesting to note that MSPGCL has managed to increase its generation in spite of a drop in claimed coal realization. Table 7 shows changes in actual generation, coal realization, and the specific coal consumption. As can be seen, the specific fuel consumption seems to have improved from 0.91 kg/kWh to 0.78 kg/kWh. While this seems like a positive thing, it is not clear what factors are responsible for this change. MSPGCL claims that coal quality has not improved significantly.

Table 7 : Actual generation, claimed coal realisation and specific coal consumption

Particulars	2015-16	2016-17	2017-18
Actual Generation MU	39368	41499	45455
MSPGCL claimed coal realisation in MT	35.655	29.706	35.579
Specific coal consumption kg per unit	0.91	0.72	0.78

In fact, as shown in Table **8** the data for coal quality as reported by MSPGCL is significantly different from what has been claimed by CIL on its SEVA portal. Note that this data is for 2017-18 – i.e. after third party sampling by CIMFR for coal quality was introduced and a general agreement among CIL customers about better alignment between billed and actual coal quality. Nor is there any significant improvement in station heat rates. Therefore, the commission should undertake detailed analysis to evaluate the factors that are responsible for these claims and seemingly contradictory and confusing figures.

Concepting station	2017-1	8		
Generating station	MSPGCL claimed (Kcal/Kg)	SEVA Grade (Kcal/Kg)		
Bhusawal	3121	4151		
Bhusawal Unit 4-5	2966	4151		
Chandrapur	3412	4151		
Chandrapur Unit 8-9	3352	4151		
Khaparkheda	2859	2251		
Khaparkheda Unit 5	2962	5251		
Koradi	3229	4151		
Koradi Unit 8-9-10	3243	4151		
Nasik	3431	4151		
Paras Unit 3-4	3235	4151		
Parli Unit 6-7	3596	44 5 4		
Parli Unit 8	3539	4151		

Table 8: Coal grade as reported by SEVA and as claimed by MSPGCL in the current petition

Source: SEVA portal and MSPGCL petition

6. Coal tolling (Case-IV bidding) and its implications for MSEDCL consumers: As per news reports MSPGCL has allocated a share of its coal to some third party generation units under Case-IV bidding. The bidding was conducted on reverse auction of the highest variable cost units of MSPGCL. However, in case of coal shortage, MSPGCL units with variable costs lower than the bid discovered under the reverse auction may get backed down. This would not be optimal. Therefore, till the time that MSPGCL claims any coal shortage related issues, no coal diversion to third parties under Case-IV bidding should be allowed without prior regulatory approval. Also, in order to ensure optimal coal utilization under the present circumstances, we request the commission to direct MSPGCL to publish the following information (refer Table 9) in this regard.

Table 9: Details	regarding Case-IV	bidding to be	published	on the website
Tuble 5. Detulis	regularing case iv		published	on the website

		Coal offered by MSPGCL					Contract details					
Date of biddin g	Quantit y (MT / year)	Grade / GCV in kcal/k g	Coal compan y / mine from which coal is to be diverte d	MSPGCL Unit / plant that had original allocatio n	Capacit y (MW)	Name of the successf ul bidder	Capacit y (MW)	Contra ct term in years	Ceiling tariff in Rs/kW h	Discovere d tariff in Rs/kWh	Locatio n	Mod e

7. Need to think of innovative measures to better utilize backed down capacity: Given the coexistence of surplus capacity and short-term power purchases, there is an urgent need to think of innovative measures to ensure that backed down capacity is available when needed. One such measure could be to allow full fixed cost of those units of MSPGCL, which are not being considered for generation by MSEDCL due to high-energy charges, only if these units are able to declare full availability during any three-month peak season declared by MSEDCL. MSEDCL should be required to declare this period in advance so that MSPGCL would get enough time ensure adequate fuel availability at the concerned stations during this time.

8. Compliance with MOEFCC notification dated 7.12.2015: The said notification requires all thermal power plants installed till December 2016 to comply with the revised norms on or before 6.12.2017. It is not clear whether MSPGCL has taken any steps towards ensuring such compliance. Since the regulations were notified in December 2015, Prayas had raised this issue in the public hearing regarding case no 46 of 2017 as well. Unfortunately, neither MSPGCL nor the Commission provided any satisfactory response in this regard. Given the serious adverse environmental impacts of thermal generation, MSPGCL should take urgent steps to comply with the said norms. In any case, given the statutory nature of the said regulations, compliance is mandatory and not at the discretion of MSPGCL.

Given the importance and urgency of the matter, and considering the fact that this issue is not limited to MSPGCL but concerns all the thermal power stations in the state, we request the commission to undertake a suo motu process to evaluate the status of compliance with the said MOEFCC regulations and also to formulate least cost plan for this purpose. Through such suo motu process, the commission should also formulate a well-coordinated plan detailing out the shut-down schedules for installation & commissioning of various emissions control systems for all the thermal power stations in the state. This would ensure a timely and smooth transition to the new norms and the state will not suffer from any shortages and/or high cost short-term power purchase as a result of this change.

9. In light of the points listed above, we pray to the commission to accept this submission on record and to allow us to make further submissions in this matter, if any.

Thanking you

Sincerely Ashwini Chitnis and Maria Chirayil Prayas (Energy group), Pune

Date: 27th August 2018 Place: Pune