

3. **MSEDCL in its Petition has stated as follows:**

3.1 In the month of March-2022, due to post Covid effect, increase in industrial and commercial activities coupled with heat wave and increased Agricultural pumping demand, MSEDCL's peak demand has reached all time high up to 24,400 MW.

3.2 On supply side due to the coal shortage scenario and forced outages, the generation from contracted thermal generators has significantly reduced which created a shortfall in generation to meet MSEDCL's demand. In order to cater this increased demand and shortfall in generation, MSEDCL was compelled to utilize Koyna Hydro at its full capacity and also to procure power from power exchanges at available rates.

3.3 In comparison to last year, the peak demand has witnessed increase of 8.20 % and average demand has witnessed increase by 6% in the month of March 2022.

3.4 Because of forced/planned outages and coal/gas shortages, around 4167 MW generation capacity from contracted thermal generating stations is under outage. The list of generators under outages as on 31 March, 2022 is as below.

Unit Outages Status as on						Date:	31.03.2022
Units under Planned Outages							
Sr- No-	Utility	Station	Unit No-	Capacity / Share	Date of tripping/ withdrawn	Expected Date of Sync-	Reason
1	NPCIL	TAPS I	1	80	08-Jan-20	31-Mar-23	Refueling
2	NTPC	VSTPS-V	13	149	26-Feb-22	14-Apr-22	AOH
3	NPCIL	TAPS I	2	80	17-Mar-22	30-Mar-22	For cleaning of clogged basket strainer of cooling water system
Sub Total			309				
Units under Forced Outages							
Sr- No-	Utility	Station	Unit No-	Capacity / Share	Date of tripping/ withdrawn	Expected Date of Sync-	Reason
1	NTPC	Kahalgaon-II	7	49	26-Feb-22	Uncertain	LP Turbine problem
2	NTPC	Mouda-II	1	272	17-Mar-22	01-Apr-22	Withdrawn due to hydrogen detected in generator primary water system
3	NTPC	Khargone	1	48	21-Mar-22	02-Apr-22	Leakages in raw makeup water lines & low reservoir level
4	NTPC	Sipat-I	1	182	28-Oct-21	31-May-22	High Vibraton in turbine bearing converted to AOH
5	NTPC	Sipat-I	2	182	29-Mar-22	01-Apr-22	BTL
6	IPP	CGPL	30	152	12-Mar-22	30-Mar-22	BTL. Will convert in Commercial issue
7	IPP	SWPGL	4	80	25-Feb-22	Uncertain	Turbine tripping on high vibration
8	IPP	RIPL	1	270	04-Mar-22	Uncertain	Electrical protection
9	IPP	CGPL	40	152	21-Nov-21	Uncertain	Fault in R Phase GT converted in Commercial issue from 31.01.2022
10	IPP	JSW	1	300	16-Mar-22	Uncertain	Turbine shift vibration high protection
11	IPP	Dhariwal	1	185	27-Mar-22	Uncertain	GT Hotspot
12	MSPGCL	Uran	7	108	25-May-20	05-Apr-22	Turbine Blade Failure
13	MSPGCL	Nashik	3	210	31-Mar-22	Uncertain	BTL
14	MSPGCL	Paras	4	250	31-Mar-22	Uncertain	Furnace Pressure High

Unit Outages Status as on						Date:	31.03.2022
Units under Planned Outages							
15	MSPGCL	Parli	7	250	30-Mar-22	Uncertain	Furnace Pressure High
Sub Total				2690			
Units under outage due to Coal/Gas Shortage							
Sr-No-	Utility	Station	Unit No-	Capacity / Share	Date of tripping/ withdrawn	Expected Date of Sync-	
1	NTPC	Kawas Gas	All	198	28-Sep-21	Uncertain	Gas Shortage
2	NTPC	Gandhar Gas	All	196	28-Sep-21	Uncertain	Gas Shortage
3	IPP	CGPL	10	152	17-Oct-21	Uncertain	Due to HP turbine warm up line NRV passing./ outage reason converted to high coal price since 22/10/2021
4	IPP	CGPL	20	152	25-Jan-22	Uncertain	On bar but scheduling power to Gujarat State
5	IPP	CGPL	50	152	15-Jan-22	Uncertain	On bar but scheduling power to Gujarat State
6	MSPGCL	Bhusawal	3	210	20-Mar-22	Uncertain	Coal Shortage
7	MSPGCL	Uran	5	108	26-Mar-22	Uncertain	Gas Shortage
Sub Total				1168			
Total				4167			

3.5 Further, thermal generators with whom MSEDCL has PPA are witnessing depleting coal stock scenario and at most of the generating stations it is at critical level. Following is the coal stock position of contracted generating stations.

Source	Station Name	Coal stock in Days as on 30.03.2022
MSPGCL	Bhusawal U-3:	0.63
	Bhusawal U-4 & 5:	1.03
	Chand'pur U-3 to 9:	2.91
	Kha'Kheda U-1 to 4:	6.50
	Kha'Kheda U-5:	9.81
	Koradi U-6 & 7:	3.00
	Koradi U-8 to 10:	2.00
	Nasik U-3 to 5:	2.92
	Paras U-3 & 4:	2.72
	Parli U-6 & 7:	2.99
Parli U-8:	3.16	
IPP	APML, TIRORA :	4
	JSWEL:	14
	RPL (AMT):	3.50
	SaiWardha	20
	GMR	1

3.6 The availability from coal based generating station has also reduced due to such forced /planned outage and coal supply issue. The contracted capacity and existing availability from the generating stations is as below:

Utility	Contracted Capacity (MW)	Generation Availability w.r.t. Ex bus contracted Capacity as on 31.03.2022 (MW)	Shortfall w.r.t Contract Capacity (MW)
NTPC	5451	4500	951
MSPGCL	9540	6900	2640
APML	3085	3085	0
RIPL	1200	980	220
CGPL	760	0	760
JSW	300	0	300
SaiWardha	240	137	103
GMR-Warora	200	200	0
Dhariwal Case IV	185	0	185

* Gross generation Availability

3.7 Thus, considering the forced and planned generating unit outages and reduced availability from the on-bar coal based generating units, there is combined shortfall of around 5000 to 5600 MW in generation availability with respect to its contracted coal based thermal capacity in the month of March 2022.

3.8 Present demand, generation availability from all contracted sources (including utilization of Koyna hydro @ 0.20 TMC per day) and shortfall during various durations of day is as below:

Period	Availability (MW)	Demand (MW)	Shortfall (MW)
Night period	19000	21500	2500
Morning peak	20000	22200	2200
Day peak	22400	24400	2000
Evening peak	19800	21400	1600

3.9 In spite of full utilization of Koyna hydro generation, it is difficult to manage the demand during the early morning peak, night and evening peak hours, especially when there is non-availability of solar generation. In such case, MSEDCL is compelled to procure costly power from power exchanges up to Rs 20.00 per unit in some time blocks.

3.10 Due to nationwide increase in power requirement, the rates in exchanges are high in the current month of March 2022. The Round the Clock (RTC) rate on Indian Energy Exchange (IEX) reached all time high i.e. up to Rs 18.67 per unit. In addition to this, the Real Time Market (RTM) rates reach up to its ceiling rates i.e. Rs. 20.00 per unit during most of the time blocks in morning/evening peak and night period.

3.11 In order to cater the demand and to supply uninterrupted power supply to MSEDCL consumers, power needs to be purchased from power exchanges on day ahead basis (DAM) / RTM market as and when required. Further, it is also observed that even at such high rates, partial quantum was executed most of the times. Hence, MSEDCL cannot rely on power exchanges for high quantum of power to meet the shortfall in generation.

3.12 MSEDCL plans utilization of allocated Koyna dam water for generation during the Water Year (WY) 2021-22 considering historical demand supply position. However, in current

water year, during the months of September 2021 and October 2021 there was nationwide coal shortage crisis which led to drastic decrease in generation availability from all the thermal power stations in the Country. Also, MoP, GoI had instructed to utilize full hydro generation from hydro stations even during off peak hours till 31 October, 2021 by which time the generation from thermal plants shall normalize. Therefore, as per instructions of MoP, Koyna Hydro was utilized to its maximum extent up to 1900 MW of its capacity continuously during this coal crisis scenario. Due to this, excess water was utilized in the months of September 2021 and October 2021 which was unplanned. Further, during the present condition due to abnormal rise in demand, unavailability of contracted thermal capacity and high market rates, Koyna hydro was again utilized to its full capacity. This has resulted into depletion of balance water quota to only 11.58 TMC as on 30 March, 2022 for balance 62 days of the Water Year.

3.13 Presently around 0.50 to 0.70 TMC water is being utilized daily due to the shortfall in generation and rise in demand. If Koyna hydro is utilized at this rate, the allocated water quota will exhaust within the next 15 days i.e. up to 15 April, 2022. Hence it is necessary to restrict the Koyna Hydro utilization to 0.20 TMC per day so as to balance out the water availability for the current water year i.e. up to 31 May, 2022.

3.14 Due to surge in demand, lack of power availability from contracted sources and as overall average power purchase cost from power exchanges was expected to be costly, MSEDCL had floated a short-term tender for procurement of 500 MW RTC power for the period from 15 March, 2022 to 31 May, 2022. However, the short-term tender floated by MSEDCL on Discovery of Efficient Electricity Price (DEEP) Portal resulted into tariff discovery of Rs. 6.99 per unit. Further, tariff discovered for short term tenders floated by other utilities are also high as given below:

Utility	Period	Hours	Tender Qtm MW	Rate received Rs./unit
RUVNL	April-22,May-22	RTC	1000	6.23 to 9.49
Tamilnadu	April-22,May-22	RTC	700	6.39 to 9.50
BSES	April-22,May-22	RTC	150 to 250	6.73 to 14.99
GUVNL	April-22,May-22	6 to 9 & 17 to 21 hrs	500	16
Andhra Pradesh	April-22,May-22	6 to 10 & 18 to 22 hrs	1000	15.88

3.15 MSEDCL has floated a fresh short-term tender for purchase of 700 MW RTC power for the period from 01 April 2022 to 15 June, 2022 and only single bidder participated in the tender with quantum of 200 MW at bid rate of Rs.11.96 per unit.

3.16 NTPC vide its letter dated 24 February, 2022 has informed that power is available for re-allocation from various NTPC stations which was surrendered recently by different States. The power from these NTPC stations was offered at Central Electricity Regulatory Commission (CERC) regulated tariff rates.

3.17 Considering the expected increase in demand for upcoming months of April and May and lack of supply availability, it can be presumed that the shortfall in power supply shall only continue to rise. Under such situation, resorting to purchase from power exchanges to meet the demand would only result into huge increase in overall power purchase cost of

MSEDCL. Hence, it became necessary for MSEDCL to contract power from available sources for this near-term period.

3.18 In view of the above, MSEDCL vide its letter dated 23 March, 2022 has requested the Secretary, MoP and Principal Secretary (Energy), GoM for allocation of power to MSEDCL from the power surrendered by various beneficiaries from NTPC power stations.

3.19 The quantum of power requested by MSEDCL and the respective CERC approved rates at which power is offered by various NTPC stations are as shown in the Table below:

Sr. No.	Name of Generating Station	Quantum of Power(MW)	Total Rate (FC + EC) (Rs./kWh)
1	Farakka I & II	11.04	3.72
2	Unchahar-I	27.01	4.29
3	Kudgi STPS	244.00	4.84
4	Gadarwara STPS	155.68	4.96
5	NTECL Vallur	86.15	5.02
6	Mauda – I STPS	62.50	5.04
7	Solapur STPS	454.81	5.28
Total		1041.19	

3.20 MSEDCL has requested for allocation of above 1,041.19 MW for the period of 2.5 months i.e. from 1 April, 2022 to 15 June, 2022 so as to cater to the increase in demand in the upcoming summer months.

3.21 Based on the request of MSEDCL, MoP vide letter dated 27 March, 2022 has re-allocated the 1003.14 MW power for MSEDCL for the period from 27 March, 2022 to 15 June, 2022. The details are as given below:

Sr. No.	Name of NTPC Generating Station	Quantum of Power in MW
1	Gadarwara STPS	155.68
2	NTECL Vallur	86.15
3	Mauda – I STPS	62.5
4	Kudgi STPS	244
5	Solapur STPS	454.81
Total		1003.14

3.22 Considering the present power scenario and high market/power exchange rates, MSEDCL has started scheduling the re-allocated power from Gadarwara, Mauda-I and Solapur, which are approved sources of power in the MYT Order, with effect from 00:00 hours of 28 March, 2022. However, in the absence of consent from Southern Region Power Committee, the power from NTECL and Kudgi was not scheduled.

3.23 MoP vide letter dated 29 March, 2022 has informed that 86.15 MW power from NTECL Vallur and 244 MW power from Kudgi power station is not available for Maharashtra as

the original beneficiaries are not agreeable for temporary reallocation of power to Maharashtra. Accordingly, effective reallocation of NTPC power to Maharashtra is as follows:

S. No.	Name of NTPC Generating Station	Quantum of Power in MW
1	Gadarwara STPS	155.68
2	Mauda – I STPS	62.5
3	Solapur STPS	454.81
Total		672.99

3.24 Further, in order to mitigate the shortfall, MSEDCL submitted that vide MYT Order of MSEDCL in Case No. 322 of 2019 for the 4th Control period from FY 20-21 to FY 24-25 dated 30 March, 2020, the Commission has approved for purchase of total 141940 MUs for FY 2021-22. The details of approved purchase quantum and actual power purchase quantum up to Feb-2022 are as given below:

Total Approved MUs FY 2021-22:	141940
Total Approved MUs FY 2021-22 up to Feb-22:	129355
Total Actual MUs for 2021-22 up to Feb-22:	128947

3.25 It is expected that total actual power purchase quantum will remain in line with the approved quantum and will not vary much during the FY 2021-22 and FY 2022-23. The need for purchase of reallocated power has arisen due to shortfall in generation from contracted generators.

3.26 NTPC power stations from which power is reallocated to Maharashtra are Gadarwara, Mauda-I and Solapur. These power stations are already approved sources for procurement of power as per MYT order dated 30 March, 2022.

3.27 Presently MSEDCL's peak demand is in the tune of 24,400 MW which in upcoming months may reach up to 25,000 MW due to the Agriculture demand and increase in temperature in the oncoming summer months.

3.28 The expected generation availability from all contracted generators excluding Koyna generation during upcoming months maybe to the tune of 20,500 to 21,000 MW. The expected shortfall to meet the peak demand may be in the range of 2500 to 3000 MW. Even if Koyna generation is utilised as per available water i.e. @0.20 TMC per day, this shortfall will be still in the range of 1800 MW to 2400 MW. Hence, emergent need has arisen to arrange for alternate power.

3.29 The rate discovered by MSEDCL for purchase of power on short term basis through recent competitive bidding in accordance with the MoP Guidelines, is Rs. 6.99 per unit which is much higher than the rates of reallocated power from NTPC stations.

3.30 Procurement of power from power exchanges would only result in increase in overall power purchase cost of MSEDCL. Accordingly, procurement of power from NTPC

stations would result in savings in power purchase cost and therefore in overall benefit to the consumers of MSEDCL.

- 3.31 It is requested to approve the power purchase from NTPC stations given in this Petition at CERC regulated tariff rates for short term period from 28 March 2022 to 15 June, 2022 as per clause 22.2 of MERC (MYT) Regulations, 2019 and as per MoP guidelines dated 30 March, 2016 and further requested to accord the approval for signing of supplementary PPA with NTPC, if required.
- 3.32 MSEDCL will submit all the details of short-term power procured to the Commission in the truing up submission for MYT control period of FY 20-21 to FY 24-25.

4. **At the time of E-hearing held on 19 April, 2022**

MSEDCL reiterated the submission made in the Petition. The Commission asked MSEDCL the reason for approaching the Commission when additional power procurement is deemed approved when the variation in the quantum and cost of power purchase is within 5% in the first six-month period or a year as per MYT Regulation, 2019 and further the reason behind the shortfall of supply when the surplus power is recognised in MYT Order. In reply MSEDCL stated that it has approached the Commission for in principal approval of the additional power procurement on the background of shortfall from the tied-up generators due to coal shortage and forced outages and restriction on utilisation of hydro power. It was further stated that MSEDCL will file separate Petition justifying the additional power procurement from CGPL.

Commission's Analysis and Ruling

5. MSEDCL has filed present petition seeking in-principal approval for short-term power procurement of 672.99 MW (RTC) power for the period of 28 March 2022 to 15 June 2022 from various NTPC sources reallocated by MoP for meeting anticipated shortfall in meeting consumer demand.
6. MSEDCL in its Petition while justifying such procurement stated that its peak demand has reached all time high up to 24,400 MW in March 2022 and expected to rise further considering summer season and increased Agriculture Demand. Whereas supply from contracted thermal sources has reduced significantly due to the coal shortage scenario and forced outages, creating a shortfall around 5000 MW. Even after full utilisation of Koyna hydro capacity, anticipated shortfall is around 1800 MW to 2500 MW. As against tariff discovered in bidding process on DEEP Portal (Rs. 6.69 per unit and Rs. 11.96 per unit) and DAM/RTM prices on IEX (Rs 18.97 per unit) especially during peak hours, average tariff of power offered by NTPC sources is Rs. 5.18 per unit. MSEDCL has already started receiving power from NTPC from 28 March 2022. MSEDCL requested the Commission to approve this additional power procurement as per the provisions of MYT Regulations, 2019 and accord approval for executing the supplementary PPA with NTPC for the short-term supply of power of 672.99 MW from 28 March, 2022 to 15 June, 2022.

7. The Commission notes the provisions under MYT Regulations, 2019 for the additional power procurement are as follows:

“22.1 The Distribution Licensee may undertake additional power procurement during the year, over and above the power procurement plan for the Control Period approved by the Commission, in accordance with this Regulation.

22.2 Where there has been an unanticipated increase in the demand for electricity or a shortfall or failure in the supply of electricity from any approved source of supply during the Year or when the sourcing of power from existing tied-up sources becomes costlier than other available alternative sources, the Distribution Licensee may enter into additional agreement or arrangement for procurement of power.

22.3 Any variation, during the first or second block of six months of a Year, in the quantum or cost of power procured, including from a source other than a previously approved source, that is expected to be in excess of five per cent of that approved by the Commission, shall require its prior approval:

Provided that the five per cent limit shall not apply to variation in the cost of power procured on account of changes in the price of fuel for own generation or the fixed or variable cost of power purchase that is allowed to be recovered in accordance with Regulation 10.”

Thus, in cases where there is an anticipated shortfall in fulfilling the demand due to reduction in the supply from the tied up sources, Licensee can enter into the additional power procurement agreement. Prior approval of the Commission for such power procurement is required only when there is possibility of increase in quantum or cost of power beyond 5% of the approved level for first or second block of six months of a year. Thus, this petition at this point of time was not required to be filed since the MYT Order has an enabling provision for MSEDCL to procure power within the specified quantum and rate (5% variation).

8. MSEDCL has anticipated that generation availability from all contracted generators excluding Koyna generation during upcoming months will be in the range of 20,500 to 21,000 MW and the expected shortfall to meet the peak demand may be in the range of 2500 to 3000 MW. If Koyna Hydro Generation is utilised, then shortfall will be in the range of 1800 MW to 2400 MW. MSEDCL has submitted present demand, generation availability from all contracted sources (including utilization of Koyna hydro @ 0.20 TMC per day) and shortfall during various durations of day is as below:

Period	Availability (MW)	Demand (MW)	Shortfall (MW)
Night period	19000	21500	2500
Morning peak	20000	22200	2200

Day peak	22400	24400	2000
Evening peak	19800	21400	1600

Considering above shortfall in meeting consumer demand, the Commission is of the opinion that additional power procurement proposed by MSEDCL for duration of 28 March, 2022 to 15 June , 2022 (which covered summer season) is justified.

9. The Commission notes that MoP has reallocated following capacities for NTPC’s power plant to MSEDCL which has been surrendered by their original beneficiaries, at the tariff approved by the CERC:

S. No.	Name of NTPC Station	Quantum (MW)	Total Tariff (FC + EC) (Rs./kWh)
1	Gadarwara STPS	155.68	4.96
2	Mauda – I STPS	62.5	5.04
3	Solapur STPS	454.81	5.28
Total		672.99	5.18

The Commission notes that although above sources have been recognised under MYT Order of MSEDCL, above capacity will be over and above the contracted capacity recognised under the MYT Order.

10. As far as tariff for above procurement is concerned it is as per CERC approved tariff which is clearly below the tariff discovered by MSEDCL on DEEP Portal (Rs. 6.69 per unit and Rs. 11.96 per unit) or prevailing tariff on power exchanges (Rs. 10.49 per unit). The Commission appreciates MSEDCL’s efforts to source power from cheapest available sources.
11. Although additional short term power procurement and its tariff is found justifiable and market reflective as above, the Commission notes that its prior approval is required only if there are chances of variation in quantum and cost by 5% above the approved level. If 4 days of March 2022 is kept aside then above said power procurement is for April to June of FY 2022-23. In its Petition MSEDCL has stated that quantum of power procurement will remain within the approved level. Then only criteria remains for which prior approval may be required is variation in cost of power procurement beyond 5%. MSEDCL in its Petition has not estimated variation in cost of power procurement from approved level for the FY 2022-23. The Commission notes that Average Power Procurement Cost (APPC) of MSEDCL for FY 2022-23 is Rs. 4.32 per unit and proposed power procurement from NTPC sources is around Rs. 5.18 per unit. However, such APPC is average for the year whereas proposed power procurement is limited for few months and quantum is also comparatively lower than total power purchase basket of MSEDCL. Therefore, it is unlikely that the scenario will lead to the necessity of prior approval in the first month of FY 2022-23. It is also difficult for MSEDCL to estimate whether such short-term power procurement would lead to variation in cost beyond 5% of approved level in first half of six months of FY 2022-23.

12. In view of the above, prima facie the Commission is of the view that its prior approval as envisaged in Regulation 22.3 of MYT Regulations 2019 is not required at this stage. MSEDCL has already started scheduling of power from 28 March 2022. MSEDCL shall continue to do that and if towards the end of first six-month block of FY 2022-23, it comes to a reasonable conclusion that quantum or cost of power procurement is varying beyond 5% approved level then MSEDCL can approach the Commission for prior approval with adequate justification.
13. Meanwhile, as quantum and tariff proposed for additional power procurement of 672.99 MW from NTPC sources are found to be justifiable, the Commission allows such additional power procurement and allows MSEDCL to enter into supplementary PPA with NTPC to that effect.
14. Having ruled as above, the Commission notes that out of projected shortfall of 1800 to 2400 MW, only 673 MW is tied-up through above additional power procurement. MSEDCL shall take efforts to contract additional power for mitigating demand-supply gap. MSEDCL during the hearing has stated that it will file separate Petition for approval of additional power procurement from CGPL. MSEDCL shall file such petition by covering all aspect of the matter. Further, non-availability of 5000 MW capacity from contracted sources is also issue of concern. MSEDCL shall coordinate with these generators for increasing their availability.
15. Hence, the following order.


ORDER

1. **Case No. 68 of 2022 is allowed.**
2. **Maharashtra State Electricity Distribution Company Ltd. is allowed to execute supplementary PPA with NTPC for the short-term power procurement of 672.99 MW for the period from 28 March, 2022 to 15 June, 2022.**

Sd/-
(Mukesh Khullar)
Member

Sd/-
(I.M. Bohari)
Member

Sd/-
(Sanjay Kumar)
Chairperson


(Abhijit Deshpande)
Secretary

