| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 210 | 1966 | 6700 | 0 | 0 | 900 | 1450 | 0 | 143 | 701 | 2173 | 0 |
| | 2021 | 210 | 2834 | 630 | 0 | 160 | 1470 | 0 | 260 | 82 | 380 | 642 | 0 |
| | 2022 | 210 | 1418 | 0 | 630 | 0 | 970 | 0 | 160 | 517 | 1212 | 0 | 0 |
| May | 2019 | 250 | 1042 | 1975 | 420 | 80 | 740 | 1350 | 0 | 269 | 850 | 0 | 0 |
| | 2020 | 210 | 1216 | 6410 | 0 | 0 | 340 | 1430 | 0 | 0 | 625 | 2173 | 0 |
| | 2021 | 210 | 3034 | 1800 | 0 | 160 | 1820 | 1980 | 160 | 0 | 450 | 1090 | 0 |
| | 2022 | 0 | 1610 | 0 | 420 | 0 | 1580 | 480 | 700 | 396 | 705 | 518 | 0 |

6.9. **Clarification with regards to surplus availability for July-2022, August 2022, September 2022, and November 2022 months:**

6.9.1 Due to monsoon season, the demand in the month of August generally remains on the lower side and MSEDCL witnesses power surplus. Also, as per the historic trend in the months of September and November, generally surplus power is available during the night hours due to lower demand.

6.9.2 In power planning; MSEDCL has considered the CAGR of last five years and August-2021 as base month for projection of August-2022 demand. In August-2021, demand was comparatively higher due to the continuous Dry Spell. Hence the projection of August-2022 demand is on higher side.

6.9.3 Further, in the month of September, as per historical trend, unexpected intermittent dry spell was witnessed, hence while projecting the demand for September, the additional safety factor is applied to capture the intermittent dry spell effect and hence shortfall is seen. However, under normal monsoon season the demand of August and till mid of September is generally in line with demand of July and during this period, there is generally surplus power available with MSEDCL.

6.9.4 Further, in the months of August and September generally shortfall is only during morning peak and evening peak hours (i.e. for 3-4 hours). This shortfall can be met through Hydro or purchase from energy exchange. However, due to lean demand period from July to mid of September, surplus power is available with MSEDCL and hence, MSEDCL entered into banking arrangement during this period. The banked energy is utilized during high demand months of October and March to May to meet the RTC power requirement.

6.10. **Demand supply position for last 3 years**

6.10.1 The abstract of demand supply position for last 3 years for the months with availability from contracted sources and short-term power procured is as below:

| Month | Peak Demand | Generation Availability | Shortfall (-) /Surplus (+) | Power procured through Exchanges | Remark |
|---|---|---|---|---|---|
| Apr-19 | 19744 | 22646 | 2902 | 0 | |

| Month | Peak Demand | Generation Availability | Shortfall (-) /Surplus (+) | Power procured through Exchanges | Remark |
|---|---|---|---|---|---|
| May-19 | 20134 | 21865 | 1731 | 0 | In year 2019-20, 2020-21 most of the power is purchased through energy exchange for optimization of power purchase cost |
| Oct-19 | 17440 | 19497 | 2057 | 75 | |
| Mar-20 | 21112 | 22625 | 1513 | 600 | |
| Apr-20 | 16690 | 22519 | 5829 | 2700 | |
| May-20 | 19095 | 22436 | 3341 | 1500 | |
| Oct-20 | 17890 | 20328 | 2438 | 0 | |
| Mar-21 | 22554 | 22541 | -13 | 400 | |
| Apr-21 | 22832 | 20974 | -1858 | 2175 | |
| May-21 | 20948 | 22403 | 1455 | 325 | Tauktae Cyclone impact |
| Oct-21 | 20125 | 20063 | -62 | 100 | |
| Mar-22 | 24400 | 22438 | -1962 | 2079 | |
| Apr-22 | 25144 | 22632 | -2512 | 676 | |
| May-22 | 24008 | 23405 | -600 | 599 | |

6.10.2 In October-21, shortfall was created due to coal shortage scenario and post monsoon effect on demand, in the above table shortfall shown less as the Koyna Hydro is utilized to its full extent over and above the planned to cope up the shortfall of thermal generation availability as per MoP guidelines issued during these periods.

6.10.3 In October-21 @ 10 TMC Koyna water was utilized against the planned 6 TMC for generation. Generally, Koyna generation is kept reserved for the summer season. Further, during October-21 the rates in market were very high and reached in some blocks at its ceiling rate i.e. Rs.20 per unit.

6.11. **Impact of MoP's direction to generating company for mandatory blending of imported coal and for maintaining coal stock**

6.11.1 MSEDCL has considered the possible increase in generating capacity on account of MoP's directives regarding coal blending as well as the fact that coal shortage scenario is likely to continue in future also.

6.11.2 In this regards MSEDCL has communicated to all the contracted coal based thermal generators to pile up the coal stock as per the MoP directives and CEA norms.

6.11.3 On the basis of calculations done for the month of June-22 in case of MSPGCL, due to the actual imported coal blending there is increase in availability of @ 5%. Thus, considering these, MSEDCL has factored increase in generation capacity of MSPGCL by @4%.

| Particulars | Actual Imported Coal consumed in June 2022 (in TT) | Increase in actual availability due to imported coal blending | Increase in Availability considered due to imported coal blending |
|---|---|---|---|
| MSPGCL | 160 | 5% | 4% |

6.11.4 Further, it is observed that due to blending of imported coal, coal stock availability is built up at contracted NTPC Plants with respect to normative stock (aggregate 77%). Hence, the projected generation availability of NTPC is considered over and above normative availability.

6.11.5 MSEDCL has considered the factoring of imported coal while assessing the generation availability and even after that there is expected shortfall in the months of October- 22 and March-23 to May-2023, hence power is required to be purchased in short term to meet out the shortfall.

6.12. **Considerations of generator availability in Petition vis-à-vis MYT Order**

The details of generation availability considered for power planning in ensuing months is as below:

| Organisation | Contracted Capacity | Available Capacity considering the Planned outage | % Availability as per MYT | Availability as per MYT (MW) | Oct-22 | | Mar-23 | | Apr-23 & May-23 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % Availability Considered by MSEDCL | Availability considered by MSEDCL (MW) | % Availability Considered by MSEDCL | Availability considered by MSEDCL (MW) | % Availability Considered by MSEDCL | Availability considered by MSEDCL (MW) |
| **MSPGCL** | 9540 | 9540 | 83.0% | 7918 | 68.64% | 6500 | 78.6% | 7500 | 78.62% | 7500 |
| **NTPC** | 4841 | 4793, 4588 , 4841 4841 | 85% | 4115 | 87.63% | 4200 | 98% | 4500 | 92.96% | 4500 |
| **IPP** | 5511 | 4478 | 82.9% | 4567 | 99.40% | 4451 | 99.40% | 4451 | 99.40% | 4451 |

6.13. **Information relating to quantum and source of banking arrangement this year as compared to previous three years:**

Quantum and source of banking arrangement this year as compared to previous three years

| Sr. No | Utility | Quantum (MW) | Import Period | Export Period | Return % | Remark |
|---|---|---|---|---|---|---|
| 1 | Haryana Power Purchase Centre (Through Trader APPCPL) | 250 | May -18 (11:00 to 17:00) | May -18 (00:00 to 05:00) | 100 | Last three years Banking arrangements |
| 2 | Haryana Power Purchase Centre (Through Trader APPCPL) | 250 | June -18 (11:00 to 17:00) | June -18 (00:00 to 05:00) | 100 | |
| 3 | Andhra Pradesh Power Coordination Committee (Through Trader PTC) | 300 | Oct-18, Nov-18 & Apr-19, May-19 | Aug-18 to Sept-18 | 105 | |
| 4 | Punjab State Power Corporation Ltd | 200 | Nov-19 & Mar-20 | July-20 & Aug-20 | 103 | |
| 5 | Tata Power Delhi Distribution Co. Ltd | 200 | Oct-21, Nov-21 & Feb-22, March-22 | 16th June-22 to 15th Sept-22 | 101 | |

| Sr. No | Utility | Quantum (MW) | Import Period | Export Period | Return % | Remark |
|---|---|---|---|---|---|---|
| 6 | Punjab State Power Corporation Ltd (Through PTC) | 200 to 300 | March-23, Apr-23, May-23 | 21st June-2022, July-22, August-22, Upto -15th Sept-22 | 110 | Existing Banking Arrangement |
| 7 | BYPL Delhi (Through KEIPL) | 100 | Oct-22, Mar-23 | July-22, Sept-22 (Upto 15) | 110 | |
| 8 | India Power Corporation Ltd (Through SPTPL) | 100 | March-23, Apr-23, May-23 | Jul-22, Aug-22 | 110 | |

6.14. **MSEDCL's plan to meet the balance shortfall.**

6.14.1 As mentioned in the Petition to cope up with the shortfall, Short term tender was floated for procurement of RTC power up to 1000 MW wherein only 100 to 400 MW quantum was received by MSEDCL. Thus, MSEDCL floated another short-term tender for procurement of RTC power up to 1000 MW for the same period.

6.14.2 MSEDCL has floated second banking tender of 300 MW for supply of power during August-22 to mid of September-22 and the return in the month of March-23 to May-23.

6.14.3 Further, to meet out the balance shortfall, MSEDCL may schedule the power from JSW and CGPL plants as per the Ministry of Power guidelines under Section 11 by looking into power supply position a month in advance.

6.14.4 The long-term power from Stressed Thermal Power Project may be allocated by Ministry of Power through competitive bidding as per MoP letter dated 15 June 2022.

7. **MSEDCL in its Additional submission dated 12 August 2022 submitted as below:**

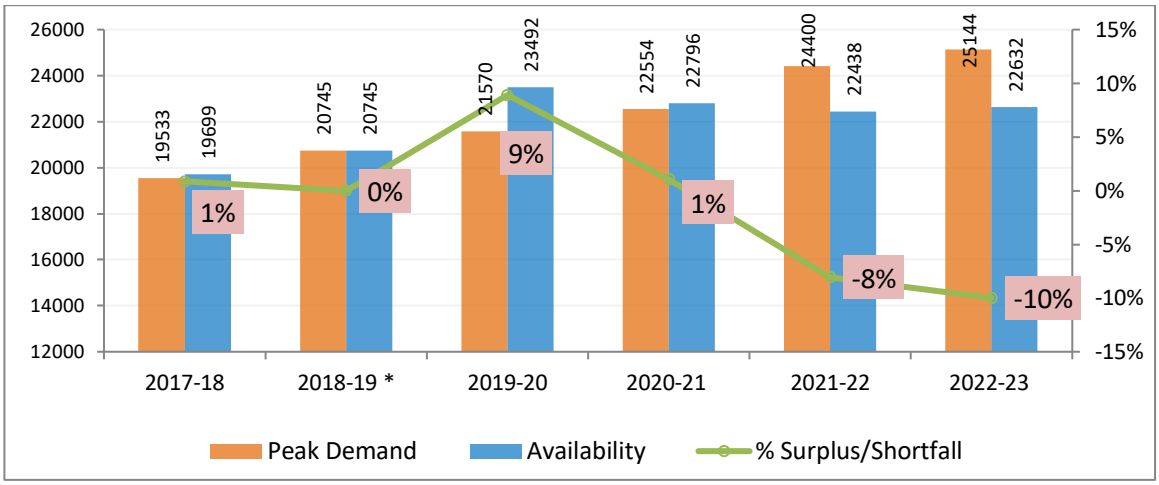
7.1. To meet the expected balance shortfall after considering the quantum discovered in first tender (ET-100), second tender (ET-115) for the same period was floated and the bidding process is completed on 10 August 2022. Considering the quantum and rates discovered in second tender (ET-115), MSEDCL has filed an additional submission as below:

7.2. **Demand Supply Gap**

7.2.1 In the months of March-22, the peak demand reached up to 24400 MW and the generation availability from contracted generating sources was around 22438 MW creating the shortfall of around 2000 MW to cater the demand.

Further, same scenario was observed in April-22 and May-22, wherein peak demand was around 25144 MW and the generation availability from contracted generating sources was around 22600 MW creating the shortfall of around 2500 MW. In April-2022 the shortfall was @ 10% which is the maximum in last 5 years.

The peak demand-supply position from 2017-18 to 2022-23 (up to July-22) is as below:




7.2.2 The major factors attributing the increase in demand and decrease in generation availability is rise in temperature, post covid effect increase in activity and the nationwide coal shortage scenario respectively.

## 7.3. Short Term Power Purchase Tender (ET-100)

7.3.1 In view of the expected shortfall in the month of October-22 and March-23 to May-23 the short-term power purchase tender ET-100 was floated on DEEP E-bidding portal for procurement of RTC power up to 1000 MW for Oct-22 and March-23 to May-23.

7.3.2 After the competitive bidding process, the rate discovered is in the range of Rs. 7.44 per unit to 7.85 per unit for the quantum of 100 MW in October-22, 300 MW in March-23 and 400 MW in April-23 and May-23.

## 7.4. Expected shortfall after considering the availability of the quantum discovered in Tender ET-100

Considering the quantum discovered in Tender ET-100, the expected surplus/Shortfall scenario is as below:

**Expected Demand Supply Position - October-2022**

| Hrs | Surplus (+)/Shortfall (-) | Qtm Discovered in STPP Tender ET-100 | Balance Surplus (+)/Shortfall (-) |
|---|---|---|---|
| 1 | 79 | 100 | 179 |
| 2 | 82 | 100 | 182 |
| 3 | -177 | 100 | -77 |
| 4 | 36 | 100 | 136 |
| 5 | 121 | 100 | 221 |
| 6 | -1112 | 100 | -1012 |
| 7 | -1029 | 100 | -929 |
| 8 | -1017 | 100 | -917 |
| 9 | -681 | 100 | -581 |
| 10 | -343 | 100 | -243 |
| 11 | -1392 | 100 | -1292 |
| 12 | -951 | 100 | -851 |
| 13 | -556 | 100 | -456 |
| 14 | -319 | 100 | -219 |
| 15 | -1377 | 100 | -1277 |
| 16 | -1778 | 100 | -1678 |
| 17 | -1356 | 100 | -1256 |
| 18 | -978 | 100 | -878 |
| 19 | -968 | 100 | -868 |
| 20 | -985 | 100 | -885 |
| 21 | -596 | 100 | -496 |
| 22 | -57 | 100 | 43 |
| 23 | 125 | 100 | 225 |
| 24 | 285 | 100 | 385 |

**Expected Demand Supply Position - March-2023**

| Hrs | Surplus (+)/Shortfall (-) | Qtm Discovered in STPP Tender ET-100 | Balance Surplus (+)/Shortfall (-) |
|---|---|---|---|
| 1 | -1608 | 300 | -1308 |
| 2 | -1727 | 300 | -1427 |
| 3 | -2140 | 300 | -1840 |
| 4 | -2064 | 300 | -1764 |
| 5 | -2098 | 300 | -1798 |
| 6 | -2172 | 300 | -1872 |
| 7 | -1765 | 300 | -1465 |
| 8 | -1446 | 300 | -1146 |
| 9 | -1021 | 300 | -721 |
| 10 | -1167 | 300 | -867 |
| 11 | -2173 | 300 | -1873 |
| 12 | -1749 | 300 | -1449 |
| 13 | -1447 | 300 | -1147 |
| 14 | -881 | 300 | -581 |
| 15 | -1223 | 300 | -923 |
| 16 | -1481 | 300 | -1181 |
| 17 | -791 | 300 | -491 |
| 18 | -496 | 300 | -196 |
| 19 | -532 | 300 | -232 |
| 20 | -1472 | 300 | -1172 |
| 21 | -979 | 300 | -679 |
| 22 | -432 | 300 | -132 |
| 23 | -669 | 300 | -369 |
| 24 | -854 | 300 | -554 |

**Expected Demand Supply Position - April-2023**

| Hrs | Surplus (+)/Shortfall (-) | Qtm Discovered in STPP Tender ET-100 | Balance Surplus (+)/Shortfall (-) |
|---|---|---|---|
| 1 | -2305 | 400 | -1905 |
| 2 | -2353 | 400 | -1953 |
| 3 | -2489 | 400 | -2089 |
| 4 | -2372 | 400 | -1972 |
| 5 | -2641 | 400 | -2241 |
| 6 | -2418 | 400 | -2018 |
| 7 | -2018 | 400 | -1618 |
| 8 | -835 | 400 | -435 |

**Expected Demand Supply Position - May-2023**

| Hrs | Surplus (+)/Shortfall (-) | Qtm Discovered in STPP Tender ET-100 | Balance Surplus (+)/Shortfall (-) |
|---|---|---|---|
| 1 | -2335 | 400 | -1935 |
| 2 | -2363 | 400 | -1963 |
| 3 | -2348 | 400 | -1948 |
| 4 | -2136 | 400 | -1736 |
| 5 | -2081 | 400 | -1681 |
| 6 | -2130 | 400 | -1730 |
| 7 | -1700 | 400 | -1300 |
| 8 | -561 | 400 | -161 |