

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Case No. 115 of 2018

In the matter of

**Petition of Maharashtra State Electricity Distribution Co. Ltd. seeking review of the
Commission's Order dated 1 March, 2018 in Case No. 15 of 2017**

CORAM

Anand B. Kulkarni, Chairperson
I. M. Bohari, Member
Mukesh Khullar, Member

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| Maharashtra State Electricity Distribution Co. Ltd. |Petitioner |
| Maharashtra State Load Despatch Centre |Respondent No. 1 |
| Maharashtra State Power Generation Co. Ltd. |Respondent No. 2 |
| JSW Energy Ltd. | Impleaded Respondent No. 3 |
| Rattan India Power Ltd. | Impleaded Respondent No. 4 |
| Adani Power Maharashtra Ltd. | Impleaded Respondent No. 5 |
| Tata Power Company Ltd. (Generation) | Impleaded Respondent No. 6 |
| Adani Electricity Mumbai Ltd. (Generation) | Impleaded Respondent No. 7 |
| Vidarbha Industries Power Ltd. (Generation) | Impleaded Respondent No. 8 |
| Sai Wardha Power Ltd. | Impleaded Respondent No. 9 |
| GMR Warora Energy Ltd. | Impleaded Respondent No. 10 |
| Ideal Energy Projects Ltd. | Impleaded Respondent No. 11 |
| Abhijeet MADC Nagpur Energy Pvt. Ltd. | Impleaded Respondent No. 12 |
| Brihanmumbai Electric Supply & Transport Undertaking | Impleaded Respondent No. 13 |
| Tata Power Company Ltd. (Distribution) | Impleaded Respondent No. 14 |
| Adani Electricity Mumbai Ltd. (Distribution) | Impleaded Respondent No. 15 |

Appearance

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|--------------------------|---|----------------------------|
| For the Petitioner | : | Shri Paresh Bhagwat (Rep.) |
| For the Respondent No. 1 | : | Shri D.S.Kolhe (Rep.) |
| For the Respondent No. 2 | : | Shri S.B. Soni (Rep.) |
| For the Respondent No. 3 | : | Shri Tushar Borse (Rep.) |

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| For the Respondent No. 4 | : Shri Nilesh Thakur (Rep.) |
| For the Respondent No. 5 | : Shri Jignesh Langalia (Rep.) |
| For the Respondent No. 6 | : Shri Amey S. Mhapsekar (Rep.) |
| For the Respondent No. 7 | : Shri Ghanshyam Thakkar (Rep.) |
| For the Respondent No. 13 | : Shri Satish A. Jadhav (Rep.) |

ORDER

Date: 19 October, 2018

1. Maharashtra State Electricity Distribution Company Limited (MSEDCL), has filed a Petition on 28 March, 2018 under Sections 33(1), 33(4), 86 and 94(1)(f) of the Electricity Act, 2003 and Regulation 37 and 38 of Maharashtra Electricity Regulatory Commission (State Grid Code) Regulation, 2006 seeking review of the Commission's Order dated 1 March 2018 in Case No. 15 of 2017 in the matter of reduction in Technical Minimum of Generating Units in Maharashtra in line with the 4th Amendment to the Indian Electricity Grid Code (IEGC) Regulations notified by the Central Electricity Regulatory Commission (CERC).
2. **MSEDCL's prayers are as follows:**
 - a) *To admit the review petition under Section 94(1) (f) of the Electricity Act, 2003 to be read along with Regulations 85 (review of Decisions, Directions, & Orders) of MERC (Conduct of Business Regulations) 2004.*
 - b) *To hold the proceedings of the case and reserve the order till the outcome of the aforementioned CEA's study and Hon'ble CERC verdict.*
 - c) *To review and set the Technical minimum capacity of all Generating stations coming under the jurisdiction of MERC and having PPA with MSEDCL at uniform level of 55 %.*
 - d) *To provide the compensation mechanism to the Generator, if required, under Clause 32 and 38 of Maharashtra Electricity Regulatory Commission (State Grid Code) Regulations, 2006.*
 - e) *To pass any other order/relief as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;*
3. **MSEDCL has stated that:**
 - 3.1 MSEDCL had filed its Petition in Case No. 15 of 2017 seeking the Technical Minimum capacity of all Generating Stations coming under the jurisdiction of the Commission and having PPAs with MSEDCL to be set at a uniform level of 55% and to issue the directions to Maharashtra State Load Dispatch Centre (MSLDC) for backing down the Thermal Generating Units to 55% while managing the demand by observing the Merit Order Dispatch (MOD).

- 3.2 The Commission's Order dated 1 March 2018, states that it is not inclined to uniformly apply a Technical Minimum of 55% due to the following factors:
- a. Central Electricity Authority (CEA) did not recommend the blanket application of a Technical Minimum level of 55% uniformly to all Generating Units.
 - b. Technical Minimum determined by the Central Power Research Institute (CPRI) for most of these Units is significantly higher than the uniform level of 55% proposed by MSEDCL.
 - c. The operation of a Unit at a Technical Minimum of 55% may adversely affect the operating life of major associated equipment, including the turbine itself.
- 3.3 There are certain apparent errors or non-consideration of MSEDCL's submissions and MSEDCL has apprehension over the way certain issues have been dealt with by the Commission.
- 3.4 The basis of filing the present Review Petition is primarily to integrate large scale Renewable Energy (RE) and therefore forestall the anticipated practical difficulties and complexities faced by MSEDCL while doing so. Moreover, MSEDCL having exercised all the available options such as backing down and providing zero schedule to the conventional generators, are left with no other option to accommodate Renewable Energy safely into the Grid.
- 3.5 The Order states that MSEDCL did not respond to the Commission when asked about the compensation payable to the Generating Companies.
- 3.6 It is submitted that MSEDCL never had any objection in paying compensation to the generators. It was expected that the Commission shall devise such mechanism in line with the prevailing CERC Regulations. However, the Commission has neglected to address the importance of the issue and failed to devise the expected compensatory mechanism. MSEDCL is ready to pay the required compensation to the respective generators for operating plant at the proposed Technical Minimum levels. Moreover, MSEDCL had expressed the same to the Commission during the hearing in the matter.
- 3.7 A similar matter of Technical Minimum (Case No. 144/MP/2017) is pending before CERC. The CERC, vide its RoP dated 27 February 2018 has directed to refer this matter to CEA and obtain its expert opinion in this matter. The Commission should hold the proceedings of this case and reserve the order till the verdict of the aforementioned case.
- 3.8 In impugned Order, the Commission has stated that

24.....The Commission also notes that various options, including zero scheduling and reserve shut-downs in consultation with MSLDC are available to help MSEDCL manage variations in demand.

In this regards, MSEDCL submits that to optimize generating sources, since January 2016, MSEDCL is providing the Zero Schedule/ Reserve Shutdown to the costlier Generating Units as per MOD considering the seasonal variation in the demand and availability of the generation. Further, MSEDCL has also exercised all the feasible options such as zero scheduling of the units and procurement of cheap power on Exchanges / short term when there is high variation in day to night demand to

optimize operation efficacy and the power purchase cost in FY 2016-17. In spite of taking all such measures, in certain period of the year, especially in the monsoon period, to accommodate the infirm, highly unpredictable RE power, MSEDCL has faced the difficulties. Hence, in anticipation of the upcoming RE power in the State and with long term perspective, to maintain the grid stability, in line with the provision of the prevailing CERC Regulations, MSEDCL had filed this Petition. But, the Commission has erred in due consideration of MSEDCL's view.

- 3.9 MSEDCL had confirmed and submitted the response of National Thermal Power Corporation (NTPC) as directed by the Commission. It was confirmed by NTPC that it is following the Technical Minimum norms of 55% effectively for all its Generating Units irrespective of capacity, age, category or technology without doing any special plant modification. NTPC and all Central Sector Generating Units are complying 55% technical minimum norms without doing any special modification. The Commission should take the above submission into consideration.
- 3.10 The foundation for filing of Review Petition is primarily the anticipated practical difficulties and complexities faced by MSEDCL while integrating large scale Renewable Energy. Hence considering the anticipated capacity addition of Renewable Energy sources, there is a need for backing down the conventional plants below the present levels of Technical Minimum to accommodate more Renewable Energy and achieve better grid security.
- 3.11 The matter related “ Reserve Shutdown and Compensation Mechanism for seeking upward revision of the Technical Minimum fixed for schedule of operation of NLCIL lignite based Generating Stations (TPS I Expn, TPS II stage 1 & 2, TPS II Expn) and other related issues” is pending with CEA. CERC's records of proceedings (Petition No. 144/MP/2017 dated 27.02.2018) state that this matter has been referred to CEA to obtain its expert opinion in this matter. Hence, MSEDCL requests the Commission to hold the proceedings of case and reserve the order till the outcome of the aforementioned CEA's study and CERC verdict.
- 3.12 The Ministry of New and Renewable Energy, Government of India is committed to its ambitious renewable energy target of 175 GW of installed capacity by FY 2022. Accordingly, the Distribution Companies (including MSEDCL) have been pursuing the goal of setting up renewable energy capacities and changing its energy mix to provide an equitable sustainable development.
- 3.13 In line with the nation-wide target of 175 GW, the “New and Renewable Energy Policy” approved by the State Government of Maharashtra aims at creating 14,400 MW of fresh renewable grid-connected installed capacity in the sector by FY 2022 with 7,500 MW from Solar energy and 5,000 MW from Wind energy resulting into an injection of huge infirm power with seasonal variation.
- 3.14 As per National Tariff Policy, 2016 it is stated that the State Electricity Regulatory Commissions shall reserve a minimum percentage for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy by March 2022. It is anticipated that the Renewable Purchase Obligation trajectory shall be further revised accordingly.

- 3.15 To comply with RPO targets, the Distribution Licensees are duty bound to contract higher quantum of Renewable Energy. Also, Renewable Energy being infirm in nature, must-run power and not schedulable, puts the grid security at risk. Therefore, providing backing down limit to 55% of thermal power plant, will lead to more flexibility for accommodating the increasing RE generation.

Issues in the Monsoon Period

- 3.16 MSEDCL's load data suggests that overall demand during the night hours is low, on account of reduced demand in commercial and residential category. This demand further drops during monsoon period.
- 3.17 During the same time period, the generation from wind mills shall be to the tune of 5 GW. Infirm power of such huge quantum shall be injected into the grid without schedule. When infirm energy in such high quantum is injected, issues such as grid stability as well as economic operation arise.
- 3.18 Many of the thermal plants have to be 'zero scheduled' for that particular time block and it will be difficult to cold start and ramp up such generators in case of sudden unavailability of wind power.
- 3.19 If the Technical Minimum level of Thermal Generating Unit is reduced, there will be further scope to accommodate Renewable Energy along with the Thermal Plants resulting in better grid stability as well as in economic manner.
- 3.20 The reduction in Technical Minimum to 55% of Thermal Generating Units will facilitate running low cost unit at full capacity by reducing high cost unit's generation to the proposed 55% technical minimum capacity against the current 70% technical minimum. This shall result in availability of cheaper power to the consumers.

Issues in the Non Monsoon Period

- 3.21 Considering the proposed solar installed capacity of 7.5 GW, operational capacity utilization factor (CUF) of 80% and higher during the day hours and must run and infirm nature of Solar power, MSLDC shall be required to back down the available thermal plants so as to accommodate such power and to match the demand and eventually safeguarding the grid.
- 3.22 Key findings of a study undertaken by National Renewable Energy Laboratory (NREL), India suggest that by FY 2022, the Renewable capacity, predominantly Solar Capacity, shall serve 22% of India's power demand. Thus, in such a system, it is understood that during day time, major source of power shall be Solar and when solar power is unavailable, other generation sources shall compensate for Solar power.
- 3.23 Hence, to meet the load at night hours, the Thermal Power Plants running at Technical Minimum during day time will be ramped up. However, it is evident that, the total capacity of Thermal Generating Units running at current levels of Technical Minimum during day hours will be insufficient to meet the State's total power demand. Hence, once the Technical Minimum is lowered, the number of Thermal Generating Units running at Technical Minimum at day hours shall increase, resulting in full-fledged catering of State's Power demand during night hours.

3.24 To cater to the short supply in meeting the State's power demand arising on account of Thermal Generating Units running at current Technical Minimum levels, additional investment may be required in terms of new Generating Units with faster ramp-up rates, to take care of sudden load surge. Hence in such cases, investment in Hydro/Gas based power plants is inevitable which shall additionally burden the consumers. Hence as an alternative, with the existing systems, avoiding any additional capital expenditure, the desired results could be attained through reducing the present levels of Technical Minimum.

Technical constraints:

3.25 The Generating Units can't be instantly started on and shut down. It takes 4 to 24 hours to start the Generating Units, as such it is not possible to completely shutdown plant everyday just on the basis of demand. Start up time needs to be taken into consideration while backing down any generating plant. Thus, as demand declines, generation of the particular plant is reduced to Technical Minimum level.

3.26 With reduction in Technical Minimum of Thermal Power Plant, sudden surge or fall in demand can be effectively met by MSEDCL and the cold start will be limited and restricted to only high cost power plants. At the proposed Technical Minimum of 55%, the number of plants undergoing cold start shall be much lesser than the plants undergoing cold start in case of existing Technical Minimum (higher than 55%).

3.27 Moreover, CERC in hearing dated 28.5.2013 in Petition No 142/MP/2012 directed CEA to submit their views on Technical Minimum for Thermal Generating Station. CEA in a communication dated 12.9.2013 to CERC in Petition No. 142/MP/2012 has given following views on the issue of Technical Minimum.

"The control range for coal fired units is generally taken as 50% to 100% MCR and the rated steam temperature can be maintained in this range. However, the units can operate at any lower load without any limits; and minimum load without oil support is taken as about 30% MCR and operation below this limit needs oil support. The CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010 prescribe a control load of 50% MCR. The operating capability generally specified in the technical specifications also stipulate continuous operation without oil support above 30% MCR load and control load range of 50% to 100% TMCR Thus unit operation may be envisaged as indicated above, barring any specific operating constraints brought out or recommended by OEMs with proper technical justification."

3.28 The Commission in its Order has quoted the above CEA's correspondence to CERC. However, it seems that the Commission has overlooked the above correspondence.

3.29 The CEA's report is a result of an exhaustive study and as per the study the Units are capable of continuous operations up to a Technical Minimum of 30%, without oil support. CERC considering the wide deviation in the existing Plant's life and varied technology, had determined the Technical Minimum at a cushioned level of 55% along with the compensation to be provided to the Generators as specified in the CERC IEGC (fourth amendment) Regulations, 2016.

3.30 The Commission is requested to take into the consideration the observation of the CEA and re-determine the Technical Minimum criteria at 55% so as to protect the grid stability, optimum utilization of all plant, accommodation of renewable power, sustainable real time operation and benefit for the consumers.

Devising Compensation Mechanism:

3.31 The Commission in its Order has ruled that

24. MSEDCL was non-committal when the Commission asked whether it was prepared to compensate the Generators correspondingly. In this context, as also brought out in these proceedings, there may be further implications arising from related provisions of the MYT Regulations and the terms of the PPAs entered into under 63 of the EA, 2003.

3.32 CERC Regulations provide for compensation methodology for operation of Central Generating Stations and Inter-State Generating Stations. Para 6.3B of the Regulations provides for compensation methodology with respect to degradation in Station Heat Rate, Auxiliary Consumption and Oil consumption per Start-up. Further, there is the provision of supplementary agreement for the generators selected Section 63 under the Electricity Act, 2003.

3.33 The above norms have been finalized by CERC after exhaustively taking in to consideration the views of all the generators as well as other stake holders.

3.34 MSEDCL never had any objection in paying compensation to the respective Generators for operating plant at the proposed Technical Minimum levels. The Commission is empowered under Regulations 37 and 38 of MERC (State Grid Code) Regulations, 2006 to decide methodology for compensation and devise a mechanism for operating plant at the proposed Technical Minimum levels.

3.35 MSEDCL expected that the Commission shall devise such mechanism in line with the prevailing CERC Regulations. However, the Commission had failed to address the important issue and devise the expected compensatory mechanism.

Conclusive Submission:

3.36 CERC, after conducting the detailed study, vide Regulation has specified the Technical Minimum limit of 55 % irrespective of the rated capacity, life, age of installation, technology or such other difference in the generating stations. According to this Regulation, all the plants coming under the jurisdiction of CERC are efficaciously operative.

3.37 On similar lines, considering the practical difficulties of MSEDCL in accommodating the increasing renewable energy, a Technical Minimum needs to be determined for Intra-State Generators and a suitable compensation methodology needs to be evolved.

3.38 Reduction in Technical Minimum upto 55% will facilitate the low cost units to run at full capacity by reducing high cost unit to its Technical Minimum capacity. In turn, it will help full for integration of renewable energy and economical power would be supplied to the consumers.

4. Vide its submission dated 3 July 2018, MSPGCL stated that:

4.1 In the Order dated 1 March 2018 in Case No. 15 of 2017, the Commission has categorically mentioned that CEA did not recommend the blanket application of Technical Minimum level of 55% uniformly to all Generating Units.

4.2 In the background of discussion and directions given in the Commission's Order dated 27 June, 2012 in Case No. 109 of 2011 regarding the issue of the Technical Minimum of Generating Units in Maharashtra and considering the level determined earlier by CPRI for similar Units, the Commission has stated as follows:

"..the operation of a Unit at a Technical Minimum of 55% may adversely affect the operating life of major associated equipment, including the turbine itself. It may also have other cost implications as the Unit may require further oil support to ensure flame stability. Several other potential impacts have been flagged by Generators during these proceedings."

4.3 Regarding the payment of compensation, it is submitted that during proceedings in Case No. 15 of 2017, the issue of MSEDCL's willingness to pay compensation was raised frequently. However at no time, MSEDCL had expressed a clear intention to pay the compensation. Now, MSEDCL has categorically mentioned in this Review Petition that it is ready to pay the compensation as may be approved by the Commission.

4.4 In the present Petition, there are no new facts brought out by MSEDCL to justify the need for reducing the Technical Minimum level and has merely repeated the earlier submission, except for the acceptance to pay the compensation.

4.5 The reference to proceeding before the CERC in the Case No. 144/MP/2017 is not relevant to the present case. Also, the contention of the Petitioner (M/s NLC) in the referred case is supporting MSPGCL's earlier submission that ad-hoc fixation of technical minimum to 55% MCR should be avoided as there are unit specific difficulties in implementation of Technical Minimum up to 55% MCR.

4.6 MSPGCL opposes the Petitioner's prayer for review of the Order dated 1 March 2018 and requests the Commission to reject the Petition.

5. Vide its submission dated 3 October 2018, Tata Power – Generation (TPC-G) stated as follows:

5.1 TPC-G has made its detailed submissions in main Petition of MSEDCL in Case No. 15 of 2017. This submission gives in details of the operational as well as commercial issues on account of such adhoc fixation of Technical Minimum level of operation.

5.2 The basis on which MSEDCL has filed the present Review Petition is devoid of any support as while issuing its main Order, the Commission had taken on record all the submissions made not only by MSEDCL and MSPGCL but also those submitted by all the Generators and Distribution Licensees in Maharashtra i.e. additional 13 impleaded respondents. Hence, there is no error apparent in the Order issued by the Commission and hence, present Petition shall not qualify for Review and is liable to be rejected.

- 5.3 The reference taken by MSEDCL to the proceedings before the CERC in Case No. 144/MP/2017 is not at all significant in the present Case. Also, in the referred Case No. 144/MP/2017, the Petitioner M/s NLC India Limited (NLCIL) is actually supporting the submission earlier made by TPC-G in the Main Petition. M/s NLCIL has explained the practical operational difficulties experienced during the operation of its plant at 55% of MCR as Technical Minimum level and has prayed to the CERC for upward revision of Technical Minimum level of operation of its plant from present 55 % to 70 % as unit specific issues are not taken care by such adhoc fixation.
- 5.4 MSEDCL has not brought any new relevant details before the Commission and hence, the present Review Petition if allowed would amount to rehearing the case already disposed of by the Commission vide its Order dated 1 March 2018. Further, MSEDCL can come before the Commission after the CERC issues its final order in Case No. 144 / MP / 2017.
6. At the hearing held on 4 October, 2018, MSEDCL reiterated its submissions as made out in the Petition and highlighted that Adani's Thermal Generating Units (Adani Stage 1) in Gujarat are operating at Technical Minimum of 61% whereas its units in the State of Maharashtra are being operated at Technical Minimum of 70%. Representative of MSLDC stated that it has no objection to MSEDCL's prayers of revising the Technical Minimum of the Generating Units at 55%. Representatives of MSPGCL and TPC-G opposed the review sought by MSEDCL stating that no new facts have been brought out by MSEDCL in the Petition. Representative of Adani Power Maharashtra Ltd. (APML) stated that the Commission may stipulate guidelines/ Regulations for addressing the prayer of MSEDCL. Representative of Adani Electricity Mumbai Ltd. stated that the Commission has published the draft Guidelines for Merit Order Dispatch in the State of Maharashtra wherein the Technical Minimum of 55% has been proposed and hence, nothing survives in the present Petition.
7. **JSW Energy Ltd. in its submission dated 5 October 2018 has stated as follows:**
- 7.1. MSEDCL has stated that there are certain apparent errors or non-consideration of its submission and it has apprehension over the way certain issues have been dealt with by the Commission. This indicates that MSEDCL is aggrieved by the Order of the Commission. In that case, the remedy available to it, is an Appeal not a review. Therefore the present Review Petition is not maintainable being an Appeal in disguise.
- 7.2. In this case, there is no such error as mentioned by MSEDCL, requiring exercise of review jurisdiction by the Commission.
- 7.3. There is no discovery of new and important matter or evidence, which after the exercise of due diligence, was not within MSEDCL's knowledge or could not be produced by it at the time when the Order was passed by the Commission. Therefore, it can't be the ground for filing the present review Petition.
- 7.4. The contention of MSEDCL stating that it was ready to provide compensation to the generators and has no objections, is incorrect. MSEDCL had objected to JSW's claim

of compensation in the main Petition. Even if it is assumed that MSEDCL had never any objection in paying compensation to the Generators, then MSEDCL should have raised the issue of same observations made by the Commission in its Daily Order dated 28 November 2017.

- 7.5. In the main Petition, there is no prayer of compensation as has been made in the Review Petition. Therefore, there arises no question of devising any mechanism by the Commission in line with the prevailing CERC Regulations.
- 7.6. Neither MSEDCL nor any of the Respondents is a party to the proceeding pending in Petition No. 144/MP/2017 before the CERC. Each Generating Unit is distinct from the other units and Technical Minimum of each unit is dependent on various factors and can't be identical for other units. This fact was clearly observed by the Commission in its Order dated 1 March 2018. Therefore, irrespective any of outcome in case of Petition No. 144/MP/2017, it can't be made applicable to the Respondent. The aforesaid Petition filed by the generator (NLC India Limited) is highlighting the issues or suffering from the issues which were discussed at length and upheld by the Commission in its Order dated 1 March 2018.
- 7.7. The Review Petition is not maintainable and is liable to be dismissed, hence there arises no question of holding and reserving the Order till the verdict of the aforesaid case.
- 7.8. MSEDCL's submissions are nothing more than repetition of the submissions made by it, during the proceedings of the Case No. 15 of 2017, on which review is not maintainable. In reply to the same, the Respondent reiterates the submissions made by it and other Respondents in Case No. 15 of 2017 which are similar and in favour of the Respondent.
- 7.9. Now, MSEDCL states that it is ready to pay the compensation as may be approved by the Commission, which itself is sufficient to decide the review Petition as the same is suffering from the infirmities.
- 7.10. MSEDCL is trying to re-agitate issues settled by this Commission vide its Order dated 1 March 2018. It is, in fact, an Appeal in disguise and hence should be dismissed.
- 7.11. A review Petition will be maintainable, only when a) there is discovery of new and important matter or evidence which, after the exercise of due diligence, was not within knowledge of the Petitioner or could not be produced by him, b) if there is mistake or error apparent on the face of the record or c) for any other sufficient reason. MSEDCL has not established the basic requirement of the maintainability of the review Petition, therefore the present Petition is liable to be dismissed with exemplary cost.
- 7.12. The issue of Technical Minimum has already been dealt and decided by the Commission between the same parties vide its Order passed in Case No. 109 of 2011 dated 27 June 2012. Therefore, the main Petition as well as present Review Petition is suffering from the bar created under the law.
- 7.13. Bare reading of the Sections under which the main and present Review Petition had been filed, shows that MSLDC, only in case of issuance of any Order or existence of

any threat to grid and its operations, may issue necessary directions and/or may require the Licensee or the Generating Co. to comply with its directions. However, it is not the case in original Petition and present review Petition. Therefore, filing of the main Petition and the review Petition under the above Sections of the Electricity Act, 2003 is incorrect on the part of the Petitioner. The same thing has been recorded by the Commission in its Daily Order dated 20 June, 2017.

- 7.14. The various contentions raised in its main Petition as well as review Petition talks about the grid stability and injecting of power by the RE energy sources. However, to maintain grid stability is a responsibility of MSLDC. Accordingly, it should be a matter of concern of MSLDC who should have filed the Petition related to the issue in hand and not MSEDCL. The review Petitioner neither has locus standi to file the main Petition nor the present Review Petition.
- 7.15. Allowing the present review Petition will amount to unilateral amendment to existing PPAs entered into between the Petitioner and the answering Respondents/ Generating Companies to give compensation as per CERC Regulations to the answering Respondents/ Generating Companies which can't be done without mutual consent of the Parties to the contract.

Commission's Analysis and Ruling

8. Case No.15 of 2017 had been filed by MSEDCL seeking revision in the Technical Minimum of all Generating Units under the Commission's jurisdiction and with which it has PPAs, to a uniform level of 55% of its installed capacity, citing the 4th Amendment to the IEGC Regulations notified by CERC.
9. While passing the Order, the Commission rejected prayer of MSEDCL. The relevant extract is given below:

"21. While the IEGC Regulations have been amended by CERC after due consultation and the revised Technical Minimum norms are apparently being followed by the Central Sector and Inter-State Generating Stations, the Commission notes the views of the CEA recorded in CERC's Explanatory Memorandum:

"34. ...CEA in a communication dated 12.9.2013 to CERC in Petition No. 142/MP/2012 has given following views on the issue of technical minimum:

"The control range for coal fired units is generally taken as 50% to 100% MCR and the rated steam temperature can be maintained in this range. However, the Units can operate at any lower load without any limits; and minimum load without oil support is taken as about 30% MCR and operation below this limit needs oil support. The CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010 prescribe a control load of 50% MCR. The operating capability generally specified in the technical specifications also stipulate continuous operation without oil support above 30% MCR load and control load range of 50% to 100% TMCR.

Thus Unit operation may be envisaged as indicated above, barring any specific constraints brought out or recommended by OEMs with proper

technical justification."

Thus, the CEA did not recommend the blanket application of a Technical Minimum level of 55% uniformly to all Generating Units.

22. In its Order dated 27 June, 2012 in Case No. 109 of 2011, the Commission had dealt with the issue of the Technical Minimum of Generating Units in Maharashtra as follows:

"23.4 ...The Commission observes that there cannot be a common definition statement applicable to all thermal plants regarding technical minimum as the said limiting value is the lower limit of carrying load safely, without support or with minimal support of secondary fuel and the load from which effortless bouncing back to higher loads is possible for the thermal plant. Plant operational patterns are bound to vary from plant to plant and it is not a definition statement but ascertaining the accurate value of such technical minimum is essential to implement MOD accurately...

...the Commission observes that none of the Public sector nor the Private sector generating companies in the State, have accurately ascertained "technical minimum" of each of its generating Units and the value available at MSLDC is just a common value such as 70% or 75% across the board.

Therefore, the Commission observes that ascertaining technical minimum and verifying it through a competent third party is absolutely essential for correct implementation of the MOD and hence, the Commission has initiated such an exercise wherein MSLDC holds the pivotal role and CPRI is identified as the competent third party for ascertaining and validating technical minimum for all thermal generating Units in the state."

Accordingly, CPRI, an apex technical organisation, conducted an exercise in FY 2012-13 to ascertain the Technical Minimum of each of 35 Units at 13 Generating Stations in Maharashtra, which is now on MSLDC's website for scheduling and SMP calculations. The Technical Minimum derived by CPRI after testing and technical study is not uniform but varies across Generating Units, and is being followed while scheduling and backing down these Units since then. The CPRI-determined Technical Minimum of most of these Units is significantly higher than the uniform level of 55% now proposed by MSEDCL. The Technical Minimum of several subsequent Generating Units, though not independently assessed, is also higher than 55% considering the level determined earlier by CPRI for similar Units or the level applied by MSLDC/Generators.

23. At para. 16.3 of its Order in Case No. 109 of 2011, the Commission had also observed that

"...in the light-load periods, the thermal Units could be backed down only up to their respective technical minimum, beyond which there would be risk of taking extensive oil support, risk of forced outages and subsequent possibility of not being available to come back on line and take load as per the generation schedule in the subsequent period."

The Technical Minimum of a Generating Unit depends on a host of factors arising from

their vintage and design and technical parameters. Where, as in the case of many of the Generating Units studied by CPRI, the Technical Minimum resulting from these factors is significantly higher, the operation of a Unit at a Technical Minimum of 55% may adversely affect the operating life of major associated equipment, including the turbine itself. It may also have other cost implications as the Unit may require further oil support to ensure flame stability. Several other potential impacts have been flagged by Generators during these proceedings.

24. According to MSEDCL, the proposed reduction in Technical Minimum to 55% would reduce its power purchase cost and, consequently, the consumer tariffs. However, MSPGCL and other Generators have pointed out that the IEGC Amendment also provides for compensation for the deterioration of performance parameters of the Generating Stations, which has not been considered by MSEDCL while calculating the savings in power purchase cost. MSEDCL was non-committal when the Commission asked whether it was prepared to compensate the Generators correspondingly. In this context, as also brought out in these proceedings, there may be further implications arising from related provisions of the MYT Regulations and the terms of the PPAs entered into under 63 of the EA, 2003. The Commission also notes that various options, including zero scheduling and reserve shut-downs in consultation with MSLDC, are available to help MSEDCL manage variations in demand.

25. In view of the foregoing, the Commission is not inclined to uniformly apply a Technical Minimum of 55% to all Generating Units with PPAs with MSEDCL and others within its purview. ”

10. Present Petition has been filed by MSEDCL seeking review of the Commission's above Order. Review proceedings are governed by the Regulation 85(a) of the Commission's Conduct of Business Regulations, 2004 which specifies as follows:

“Review of decisions, directions, and orders:

85. (a) Any person aggrieved by a direction, decision or order of the Commission, from which (i) no appeal has been preferred or (ii) from which no appeal is allowed, may, upon the discovery of new and important matter or evidence which, after the exercise of due diligence, was not within his knowledge or could not be produced by him at the time when the direction, decision or order was passed or on account of some mistake or error apparent from the face of the record, or for any other sufficient reasons, may apply for a review of such order, within forty-five (45) days of the date of the direction, decision or order, as the case may be, to the Commission...”

11. Thus, the ambit of review is limited, and this Petition has to be evaluated accordingly.
12. MSEDCL, in the present Petition, has stated that the foundation for filing of Review Petition is primarily the anticipated practical difficulties and complexities faced by MSEDCL while integrating large scale Renewable Energy. MSEDCL has further stated that considering the anticipated capacity addition of Renewable Energy sources, there is a need for backing down the conventional Generating Units below the present levels of Technical Minimum to accommodate more Renewable Energy and achieve better Grid security.
13. While rejecting the MSEDCL's prayer in the impugned Order, the Commission has cited the CPRI Testing conducted in FY 2012-13 to ascertain the Technical Minimum

of 35 Generating units that were existed at that point in time. However, on the grid management issue due to integration of large scale Renewable Energy, the Commission stated that various options including zero scheduling and reserve shut-down are available with MSEDCL which may be exercised in consultation with MSLDC for managing the demand variations. The Commission is of the opinion that although such options may help MSEDCL to manage demand variations, the much needed flexibility in the grid operation is not available with these options. The Units kept under zero schedule / reserve shut down require substantial period (minimum 8 hours or more) to come on bar and therefore generation from these Units may not be available in case of sudden unavailability of wind power. Therefore, the Commission is of the view that the issue of integration of large scale Renewable Energy (that is proposed to be added in near future) has not been resolved in the impugned Order. This issue needs serious consideration on account of the following facts mentioned:

- i. As per Regulation 7.1 MERC RPO Regulations 2016, there are incremental targets of 13.75% and 15.00% for RPO for FY 2018-19 and FY 2019-20 respectively. It is anticipated that the RPO shall be further increased.
 - ii. National Tariff Policy, 2016 states that the State Electricity Regulatory Commissions shall reserve a minimum percentage for purchase of solar energy from the date of notification of the policy which shall be such that it reaches 8% of total consumption of energy by March 2022.
 - iii. There is optimistic projection for addition of renewable power capacity in the country in the near future and it is likely that there may be surplus situation during certain periods requiring further backing down Thermal Generating Units.
14. In view of the forgoing, the Commission notes that the concerns raised by the MSEDCL cannot be overlooked due to fast changing RE scenario and this amount to criteria of 'any other sufficient reasons' as per Regulation 85 (a) of Conduct of Business, under which an applicant may apply for a review of the Commission's Order.
15. The Commission further notes that although CPRI testing has been carried out for many Generating Units in Maharashtra, there are many new units in the State for which there is no independent assessment of the Technical Minimum and same has been considered based on the Technical Minimum of similar tested Units / Technical Minimum applied by the Generating Companies.
16. The Commission notes the submissions of the various Generating Companies in the main Petition expressing difficulty to operate their respective Units at Technical Minimum of 55%. However, at the same time, these Generating Companies had also stated that if the Commission is inclined to revise the Technical Minimum to 55%, a suitable compensation mechanism may be required to compensate the Generating Companies towards deterioration in the performance parameters of the Generating Unit. Also, as pointed out in the present Petition, the Technical Minimum of 55% is being followed by the Generating Units which are under jurisdiction of CERC.

17. In view of the above, the Commission is of the opinion that Technical Minimum of the Generating Units in the State of Maharashtra needs a revision. On 1 October, 2018, draft Guidelines for Merit Order Dispatch in Maharashtra have been published by the Commission proposing the Technical Minimum of 55% for the Generating Units in the State of Maharashtra in line with the CERC Regulations. A detailed public consultation is expected on these guidelines for related issues involved, such as demand supply scenario in the State, scenario of RE additions, difficulties of the Generating Companies, compensation payable to the Generating Companies, experience at national level of the implementation of 55% Technical Minimum etc. MSEDCL has also agreed to provide the compensation to the Generating Companies on account of loss of performance parameters, in line with the CERC Regulations. These and other related issues would be considered by the Commission while finalizing the Guidelines. Hence, following Order:

Order

1. **The Case No. 115 of 2018 is allowed in principle.**
2. **On 1 October, 2018, draft Guidelines for Merit Order Dispatch in Maharashtra have been published by the Commission proposing the Technical Minimum of 55% for the Generating Units in the State of Maharashtra in line with the CERC Regulations. A detailed public consultation is expected on these guidelines for related issues involved, such as demand supply scenario in the State, scenario of RE additions, difficulties of the Generating Companies, compensation payable to the Generating Companies, experience at national level of the implementation of 55% Technical Minimum etc. MSEDCL has also agreed to provide the compensation to the Generating Companies on account of loss of performance parameters, in line with the CERC Regulations. These and other related issues would be considered by the Commission while finalizing the Guidelines.**

Sd/-
(Mukesh Khullar)
Member

Sd/-
(I.M. Bohari)
Member

Sd/-
(Anand B. Kulkarni)
Chairperson


(Abhijit Deshpande)
Secretary

