

**Before the**  
**MAHARASHTRA ELECTRICITY REGULATORY COMMISSION**  
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**Case No. 109 of 2011**

**Petition seeking consideration on the expected variation in the performance parameters for MSPGCL power stations on account of backing down instructions from Maharashtra State Load Dispatch Centre.**

**Shri V.P. Raja, Chairman**  
**Shri Vijay L. Sonavane, Member**

Maharashtra State Power Generation Co Ltd ..... Petitioner

Vs.

1. Maharashtra State Electricity Distribution Co Ltd
2. Maharashtra State Load Dispatch Centre ..... Respondents

**Present during the hearings:**

**For the Petitioner:**

Shri Subrat Ratho. MD, MSPGCL  
Shri C.S. Thotwe, MSPGCL  
Shri G.J.Girase, MSPGCL  
Shri Sanjay Sen, Advocate, MSPGCL

**For the Respondent(1):**

Shri A.S.Chavan, MSEDCL  
Shri Satyajit Pawar, MSEDCL  
Shri R.V.Jogdand, MSEDCL  
Shri Sanjay Agrawal, MSEDCL

**For the Respondent(2):**

Shri P.B.Hote, MSLDC

Shri P.R.Deore, MSLDC

Shri B.S.Gujarathi, MSLDC

Shri Ravi Prakash, Advocate, MSLDC

Shri Varun Pathak, Advocate, MSLDC

**ORDER**

**Dated: 27 June 2012**

1. Maharashtra State Power Generation Co Ltd (MSPGCL) filed a petition on 15 July, 2011, and revised the same on 20 August 2011, seeking consideration on the expected variations in the performance parameters for its units on account of backing down instructions from Maharashtra State Load Despatch Centre (MSLDC). The Petition has been filed under Regulation 85 of MERC (Terms and conditions of tariff) Regulations, 2005 as applicable in FY 2010-11 and Regulations 12 and 100 of the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2011 as applicable from FY 2011-12 onwards.

2. MSPGCL in its Petition to the Commission has prayed for the following:

2.1 *Prayer*

“

*a. Admit this petition*

*b. Remove the difficulty pertaining to consideration of back down of units and its impact on the normative parameters as uncontrollable .*

*c. Approve the methodology for calculation of loss of generation and allow relaxed parameters for the units generated during the back down operations.*

*d. Allow MSPGCL to recover the financial impact for FY 2010-11 during the true-up process in the manner as deemed appropriate by the Commission*

*e. Condone any shortcomings in the petition and allow MSPGCL to submit additional information during the course of proceedings on this petition before this Hon'ble Commission; and*

*f. Pass such further order(s) as it deems just, fit and proper in the facts and circumstances of the case.”*

2.2 The Petitioner stated that MSPGCL is a company incorporated under the Companies Act 1956, pursuant to decision of Government of Maharashtra (GoM) to reorganize erstwhile Maharashtra State Electricity Board (MSEB). The said reorganization of the MSEB has been done pursuant to Part XIII read with section 131 of the Electricity Act, 2003. MSPGCL has been incorporated on 31 June, 2005 with the Registrar of Companies, Maharashtra, Mumbai and has obtained Certificate of

Commencement of Business on 15 September, 2005. The Petitioner is engaged in the business of generation of electricity with power plants at Bhusawal, Chandrapur, Khaperkheda, Koradi, Nasik, Paras, Parli, Pophali and Uran.

**2.3** The Petitioner submitted that the terms and conditions of the said Tariff Regulations, 2005 were applicable for Tariff determination till FY 2010-11. Subsequently, the Hon'ble Commission notified its MYT Regulations, 2011 on 4 February, 2011 applicable from 1 April 2011 (FY 2011-12) onwards. Subsequent to the notification of the MERC MYT Regulation, 2011, the MERC (Terms and Conditions of Tariff) Regulations, 2005 stood repealed.

**2.4** The Petitioner submitted that, however, as per Regulation 101 of the MERC MYT Regulation, 2011, notwithstanding the repeal, the Tariff Regulation, 2005 is to be considered for any proceeding before MERC pertaining to the period till FY 2010-11 as stated below:

*"101.1 Save as otherwise provided in these Regulations, the "Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005" are hereby repealed.*

*101.2 Notwithstanding such repeal, any proceedings before the Commission pertaining to the period till FY 2010-11, including review Petitions, shall be governed by MERC (Terms and Conditions of Tariff) Regulations, 2005"*

**2.5** The Petitioner submitted that since the matter pleaded in the Petition prevails to the period prior to notification of the MYT regulations 2011 as well, therefore, cognizance of the provisions of the Tariff Regulations, 2005 has also been taken into account in the present Petition.

**2.6** The Petitioner submitted that the present Petition has been filed for removal of difficulty in applying the principles of Regulations so far as the definition of uncontrollable parameters governing the determination of normative fuel cost are concerned. The Petitioner submitted that it believes that the impact of backing down of units and its impact on the normative performance parameters need to be considered as uncontrollable and hence it is praying before the Commission to remove the said difficulty as per the rationale elaborated in the Petition.

### **3. Background**

**3.1** The Petitioner submitted that it is operating its stations as per the instruction of Maharashtra State Load Dispatch Center (MSLDC). As a responsible generator, MSPGCL abides by the instruction of MSLDC in order to support the stability of the grid. The Petitioner submitted that during the last several months especially since

April 2010, the Petitioner had observed that there were frequent backing down instructions from MSLDC to the Petitioner's power stations citing reason of high frequency / low demand.

**3.2** Due to frequent incidences of backing down, the Petitioner had sought details from MSLDC with respect to backing down instructions and whether the prevalent principles of merit order despatch (MOD) had been followed in the back down instructions.

**3.3** The Petitioner submitted that it discussed the matter with all stakeholders in Maharashtra, viz., MSLDC, MSETCL, MSEDCL and the private utilities at various forums. The Petitioner has filed the present petition before the Commission with regard to the concerns observed by all the stakeholders during these discussions. The key intent is to apprise the Commission of the cause of frequent backing down of Petitioner units, its impact on performance and to seek guidelines regarding normative parameters during periods of backing-down.

#### **3.4 Reason for frequent back down instructions to MSPGCL stations by MSLDC**

The Petitioner submitted that it has been receiving instructions from MSLDC for backing down of its units especially during off peak hours. The key reasons for back down of MSPGCL stations (as given cognizance by all stakeholders as per MSPC ROP dated 9 May, 2011) are as follows:

[The following Para has been submitted by the Petitioner as Revised Petition, dated 20 August, 2011]

- a.** There are issues in involving the interstate short term transactions under the state MOD mechanism. The reason being that these are governed by CERC Regulations and IEGC 2010. As per the CERC Regulations, short term power cannot be rescheduled before 48 hours and hence the same cannot be brought into the purview of any instantaneous back-down operations.
- b.** The Petitioner submitted that all stakeholders have appreciated the fact that it is not appropriate to penalize generators supplying power under long term contracts. Accordingly, all members recognized the need for curtailment of intra-state open access transactions in a high frequency/ low demand scenario. However, according to MSLDC, more clarity is required on the modus operandi for preparing the merit order stack under the existing Regulations and Orders.

c. The Petitioner submitted that it is duty- bound to abide by the instructions of MSLDC on backing down its units.. However, loss of generation on this account is a matter of concern and is bound to affect the performance of the units. The Petitioner has submitted the case of Chandrapur where the Petitioner has alleged that the quantum of loss has increased by 400% in a year on year comparison. The Petitioner provided the generation loss over the years in the table below:

**Table: Generation loss in Chandrapur due to back down instruction over the years**

Year	2006-07	2007-08	2008-09	2009-10	2010-11 till Feb-2011
Loss (MUs)	1.644	3.437	4.981	16.726	65.876

### **3.5. Concerns of MSPGCL due to backing down of units and views of the stakeholders**

**3.5.1** The Petitioner submitted that it has been concerned about the frequent backing down instructions received by its stations. During various meetings with the stakeholders in this regard, the Petitioner apprised the members that the cost of generation of Petitioner’s thermal stations is regulated as per the MERC Tariff Regulations as amended from time to time. The regulations specify the technical parameters, viz., availability, station heat rate (SHR), specific oil consumption and auxiliary consumption. The variable cost of generation is determined using the normative technical limits. On account of frequent back down instructions, the performance of the Petitioner’s stations has further deviated from the normative limits.

**3.5.2** MSPGCL submitted that it had also discussed the possibility of recovery of such financial impact by fixing the responsibility based on any corresponding gain to any other stakeholder(s). However, after several rounds of discussions with MSLDC and interactions in the Maharashtra State Power Committee (MSPC) meetings, it was finally resolved (meeting held on 9 May, 2011). The Petitioner enclosed the ROP of the said meeting as Annexure-A to its Petition and highlighted the following details:

- a. *All members including the representatives of MERC agreed that there is a need to address the issue of compensation due to deviation in technical parameters.*
- b. *The appropriate authority to address the aforesaid issue is the Maharashtra State Electricity Regulatory Commission.*
- c. *It was suggested that the compensation may be claimed by Petitioner in its True up exercise for the relevant year.*

### **3.6 Powers of the Commission to regulate the Tariff of Petitioner's units**

The Petitioner has further submitted as follows:

- a. The Commission has the power under Sections 61 and 62 of the Electricity Act 2003 to frame the Regulations and determine the tariff of thermal stations under the PPA route.
- b. Further, the Commission has notified the MYT Regulations 2011 which contains the overall performance norms for the stations.
- c. Petitioner without prejudice to its right to initiate appropriate legal proceedings and seek legal remedies thereto had submitted an application (Ref No. RCD11/61/L282 dtd. 30 March 2011) before the Commission seeking exemption from the MYT Regulations and had requested the Commission to continue with the Tariff principles as existing in 2010-11 for the purpose of determination of Tariff for 2011-12.
- d. However, irrespective of the final decision on Tariff principles in the aforesaid matter, Petitioner submits that the Commission treats a few parameters as uncontrollable so far as the determination of variable cost is concerned:
  - Price of fuel
  - Calorific value of fuel
  - Variation in freight rates;However, in the Tariff Regulations notified so far, there is no cognizance of such grid parameters and its impact on the performance of the generating units.
- e. Under the circumstance, one of the possible recourse before Petitioner was to approach the Commission under the normal ARR process and submit the details of such uncontrollable factors and its impact on the normative parameters.
- f. However, since the issues have emerged from joint discussions with stakeholders in the state of Maharashtra and are of equal concern for all entities, it is desirable that a detailed deliberation as part of the proceedings on this petition may be undertaken.
- g. In this regard, the Petitioner is submitting the overall methodology for estimation of impact of backing down on the normative parameters for the consideration of the Commission. The same may be used to provide relaxation from the normative parameters for such period in which backing down is undertaken in the units.

### **3.7 Methodology for estimating the variation in technical performance on account of back down instructions as submitted by the Petitioner**

- a. The Petitioner submitted that it is approaching the Commission with reference to its meetings with various stakeholders who have unanimously concluded that the issue of increase in normative parameters on account of uncontrollable grid parameters needs to be apprised to the Commission.

b. The Petitioner submitted that the performance of its stations is significantly impacted on account of frequent back-down operations and also on account of lower PLF. The same has been taken into cognizance during the MSPC meeting by all stakeholders.

c. In order to assess the deviation in technical performance Petitioner has proposed the following :

Step-1: Calculate the overall loss of generation on account of back-down of units. (Output in terms of million units lost/not generated)

Step-2: Calculate the impact of deterioration in SHR on account of lower PLF. (based on OEM/actual load curves.)

Step-3: Derivation of correction factor in SHR and auxiliary consumption.

Step-4: Assess the actual units generated during the period of back down instructions.

The step-wise calculations are explained in detail below:

### **Step-1: Estimation of average load, back down load and generation loss**

a. The general methodology for booking backing down loss could be the product of difference between declared capacity during the backing-down period and the actual load during the backing down hours. The methodology can be adopted considering the ready availability of data. However, calculations of MUs lost on account of backing down as per this method can at best be indicative.

b. Another method that can be adopted, could be the difference between actual load before start of backing-down and average load during the backing-down period. In this method of computing, loss of MW will not be truly representative as it takes into consideration the instantaneous load before the start of backing down and load at the end of backing down for the purpose of calculation of backing down loss only. As the instantaneous load may have  $\pm 10\%$  deviation from the average plant condition due to dynamic plant operation, the calculation with this method will have inherent errors. It will also not capture the variation during backing- down period in real time.

c. Another consideration in this regard pertains to booking the backing-down time. The time period involves the time taken since the receipt of message received from MSLDC to communication to various units within the power station and technical readiness for reducing the load without compromising on plant safety. Similar process-time needs to be considered for restoration of the plant to the normal declared capacity after withdrawal of backing-down instructions.

- d. In order to overcome the aforesaid constraints, it is proposed that:
- The base load before backing down is calculated on the basis of average load of integer one hour before backing down.
  - Actual load/generation is calculated on the energy meter readings available during the backing down time (integer hours).
  - Backing down loss is calculated as the difference between deemed generation at base load for backing down hours less average actual generation for the backing down hours.

On account of the above, the ramp rate during load reduction and restoration of the load is considered using energy meter readings as reference. The base load is also calculated from energy meter reading.

**Step-2: Estimation of deviation in SHR and auxiliary consumption on account of loss in generation**

- a. The impact of backing down is calculated primarily on two parameters, viz., incremental station heat rate and the rise in auxiliary consumption.
- b. Deviation factors for SHR and auxiliary consumption are to be derived from the design heat rate vs. load and auxiliary consumption vs load curves. Deviation factor for SHR will be in (kcal/kWh)/MW and for auxiliary consumption it will be in % /MW for the backing down range, assuming the curve to be linear in the specific zone.
- c. The reference to derive factor for Heat rate is taken from design heat rate of turbine loaded with design efficiency of boiler. In case of auxiliary consumption, the actual trend at various loading conditions is referred to derive factor for increase in auxiliary consumption per MW decrease in loading of the units due to backing down.
- d. For the purpose of this calculation, the stations are assumed to be operating in the PLF range of 75% (prior to back down) to 50% (during back down). The slope of SHR at 50% PLF and 75% PLF is worked out and considered for further workings.
- e. An ideal way to calculate the impact of backing-down on SHR would be to undertake an instance wise analysis of the parameters similar to the manner in which units lost on account of back-down are estimated.
- f. However, considering that such instructions are way too many during the year, instance wise deterioration in performance parameters and then allowing relaxation for the individual instance would be cumbersome and undesirable.
- g. Therefore, it is proposed to work out the deviation factors on a generic note based on the overall performance of the unit for over the year (overall band of operation for PLF i.e. 50% to 75%).

### **Step-3: Derivation of correction factor in SHR and auxiliary consumption**

For the purpose of estimating the correction factor in SHR and auxiliary consumption, the following is proposed:

Yearly Truing up heat rate = Normative HR + ((backing down MU/normative MUs @80% PLF)\*1000\*factor (derived in step-2 above))

Yearly Truing up aux. cons. = Normative aux. cons. + ((backing down MU/normative MU @80% PLF)\*1000\*factor (derived in step-2 above))

### **Step-4: Calculation of actual units generated during the back down period.**

- a. Petitioner submits that the relaxation in parameters worked out in step-3 needs to be applied to the overall units generated during the year during back-down operations.
- b. Therefore, in the ARR process, part of the units need to be considered at the normative parameter and the units generated under back down operations need to be considered at the relaxed norms.
- c. The units generated during the back down operations can easily be assessed based on meter readings.

The Petitioner submits that the Commission may prudently examine the proposed methodology. Petitioner is open to discuss/submit any further information as may be required during such exercise.

## **4. Submission on Affidavit by Maharashtra State Load Dispatch Centre, Respondent No 2 (30 August, 2011)**

**4.1** Respondent No 2, MSLDC, submitted that as per Section 32(2)(e) of the EA 2003 Clause (e) MSLDC is mandated to “be responsible for carrying out real time operations for grid control and dispatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.”

**4.2** MSLDC submitted that as per the Commission’s Order in Case No. 42 of 2006 regarding introduction of ABT Regime within Maharashtra and related issues, the MSLDC-OD shall be responsible for preparing the least cost despatch schedule after taking into account the requirement of the state as a whole.

**4.3** MSLDC submitted that as per State Grid Code 2006 and IEGC 2010, load-generation balance of the state grid is one of the prime its responsibilities. In order to maintain load-generation balance to match with constantly changing demand within the IEGC frequency band, it is necessary to carry out load control measures, i.e., load shedding in case of a short fall scenario and backing down in case of a surplus scenario.

**4.4** MSLDC submitted that even through the state grid is facing shortage of power in day time, due to reduction in demand during night hours resulting in under drawl to the extent of 700 to 800 MW associated with high frequency above IEGC band, sometimes backing down of the generation is done to maintain grid discipline and avoid grid code violation.

**4.5** MSLDC submitted that due to a prolonged monsoon and cold wave in November, December & January 2010, night demand reduced drastically resulting in surplus generation during the night.

**4.6** MSLDC elaborated on the system conditions when state generation is required to be backed down as follows:

- a. Under drawl by state associated with high frequency results in state being in the defaulting condition for frequency above 50.20 Hz.
- b. Under drawl by regional constituents results in the violation of total transmission capacity (TTC) on inter-regional links and the state is contributing to the under drawl. Under this condition congestion charges become applicable.

**4.7** MSLDC submitted that as per CERC order dated 17 March, 2010 Clause No.2, congestion charge is Rs 5.45 /kWh and the said charge is applicable to defaulting constituent and applicable after the period of 30 minutes after issuance of notice by WRLDC .

**4.8** MSLDC submitted that before backing-down instructions are issued, the following steps are followed:

- a. Minimization of hydro generation.
- b. Withdrawl of complete load shedding in the state including single phasing and agricultural grid separation.
- c. Using the Ghatghar unit in pumping mode.
- d. Re-scheduling of central sector allocation and RGPPL in concurrence with load management cell at MSEDCL, Kalwa.

**4.9 Relevant provision as per intra-state ABT order:**

The Petitioner submitted that backing down is carried out as per merit order, and stack is prepared on the basis of variable cost generation provided by distribution utilities for the purpose of preparing monthly UI bill under interim balancing and settlement mechanism) IBSM.

The Petitioner proceeded to reproduce the relevant clauses of the intra-state ABT order in Case No.42 of 2006 as follows:

**Clause 4.1.1(b)**

*Based on the availability schedule forecasted by generating stations and load requirement forecasted by State Pool Participants, the MSLDC –OD shall draw up the least cost dispatch schedule for the State as a whole in accordance with the merit order principles approved by MERC from time to time.*

**Clause 4.1.1(e)**

*Based on least cost despatch schedule , the MSLDC-OD shall notify the Target Dispatch Schedule to generating stations and Drawl Schedule to the State Pool Participants .The target despatch schedules and target drawl schedules shall be determined by undertaking load generation balancing and adopting MOD principals at reference frequency of 50 hz.*

**Clause 4.1.3(d)**

*While furnishing the availability forecasts,the generating companies shall take into consideration the load requirement of their ‘captive consumers and open access consumers’ and present these requirements separately so as to be dispatched fully up to the contracted OA load i.e., the OA generators shall not be subjected to backing down instruction (subject to system emergency and transmission constraint) up to the requirement of their OA transactions. However, generation beyond the load requirement of their OA transactions shall be subjected to centralized MOD principals.*

**Clause 4.3.2(b)**

*The computation of ‘FCR Pool Increments’ and ‘FCR Pool Decrements’ shall be based on Available Capacity declaration as provided by the Generating Stations. The generating Stations shall abide by backing down instructions issued by MMSLDC on account of system constraints, grid security aspects etc. For the purpose of Fixed Cost Reconciliation ,the generating stations shall be deemed to be available up to its declared capacity ,even through it may be backed down for the reasons not attributable to such generating station. Further, it is clarified that during real-time operations if required , MSLDC may seek to verify available capacity of the generating station up to ‘declared capacity’ and issue despatch instructions accordingly.*

**Clause 4.5(e)**

*The variable cost of each generating station for the purpose of Merit Order Despatch stack and for station for the purpose of Merit Order Despatch stack and for computation of ‘Ex –Ante Imbalance Pool Price’ Shall be the per unit energy charge outlined in the energy bill for the per unit energy charge outlined in the energy bill for the previous month in respect of each generating station or the latest information available in respect of such generating station, as the case may be.*

**Clause 4.6**

*(d) .....Merit Order Stack for that State Pool Participant comprising the generating stations to the extent of generation capacities contracted by that State Pool*

***Participant based on their variable cost shall be drawn and the same shall form the basis for determining marginal station in respect of that State Pool Participates.”***

***Clause 4.7***

*(d) The Merit Order Stack shall be based on the energy charge inclusive of fuel cost adjustment charge,if any ,of various generating stations shall be based on the heat rate ,auxiliary consumption factor ,the formula for determination of energy charges as approved by appropriate Commission and the delivered cost of fuel at respective generating stations.*

*(e) The generating stations shall furnish the details of the prevalent fuel charge including ,details of the delivered cost of fuel during the month to the MSLDC –OD from time to time at least once during the month and not later than fifth day of the month to enable the MSLDC-OD develop centralized ‘Merit Order Stack’ for the state as whole.*

***Clause 7.3.1***

*(c) For the purpose of market operations ,the contracted capacity shall be considered only after its entry into the commercial operation and if dispatched by the MSLDC-OD in the normal course of operations in accordance with the Merit Order Despatch Principals.*

*(e) All generators shall furnish details of their per unit variable cost of generations to the MSLDC-OD to enable it propose a Merit Order Stack of generating stations, after taking into account MUST Run and constrained generating stations .*

*(f) The details for determining per unit variable charge for the purpose of the Merit Order Stack shall include computation of energy charge inclusive of fuel cost adjustment charge ,if any, of various generating stations as applicable for the extant month. The computation of energy charge shall be based on the heat rat ,auxiliary consumption factor ,the formula for determination of energy charge as approved by Appropriate Commission and the delivered cost of fuel at respective generating stations .*

**4.10** Respondent (2) further submitted that the said issue was discussed at an extraordinary MSPC meeting on 9 May, 2011 and recorded in the minutes as

*“.....CMD, MSPGCL stated that compensation is required on the account of rise in heat rate when generation is dropped below 80% of the generator capacity. It was discussed and accepted by all DISCOM that compensation of heat rate on lower PLF comes in the purview of MERC during truing up.*

*All members & MERC committee agreed that there is need to address the issue of compensation due to rise in heat rate and the appropriate authority to address the issue is Hon’ble Commission .Members further suggested that the said compensation may claimed by MSPGCL in its ARR in truing up with MERC.”*

Respondent (2) reproduced the relevant provision of the State Grid Code (SGC)-2006:

*“22.17 State Load Dispatch Centre, in coordination with Regional Load Dispatch Center, Users and Transmission Licensees shall make all possible efforts to ensure that the grid frequency always remains within the 49.0 -50.5 Hz band, the frequency ranges within which steam turbines conforming to the IEC specification can safely operate continuously.”*

#### **4.11 Basis of MOD**

Respondent (2) explained in its submission as follows:

- Backing down was carried as per merit order stack (derived from IBSM billing data ) after observing system conditions for about 2 time blocks, only after taking action as mentioned in Para 1 (excluding must run gas ,nuclear ,co-gen and wind generation.)
- During frequency of more than 50.20Hz,when the state is under drawing by a large quantum, the system operator after observing all steps, issues messages to generating stations for backing down to the technical minimum of the units, which are above technical minimum (i.e., 70% of full load capacity).
- Inter-state bilateral transactions cannot be curtailed in view of CERC Open Access Regulations, hence, it is not considered for merit order stack.
- While carrying out backing-dawn, the current system condition is taking into consideration and the trend of system behavior-based on the previous day’s experience. As all system operators in New Grid are taking corrective action, it may happen that instantaneous frequency may sometimes vary between 50.00 and50.20 Hz .However, under drawl is a major criterion for backing down as it leads to grid indiscipline and attracts penal action.
- Backing down is withdrawn when system loads are rising and under drawl and frequency are under control.
- As per procedure for certifying availability of generators, the quantum of energy backed-down is considered as deemed generation.
- Backing-down instructions were in coordination with RLDC and LM cell of MSEDCL to avoid IEGC violation, grid security, penal action and applicability of congestion charges.
- MSLDC had taken backing down as per provisions of MERC order.

#### **4.12. MSLDC’S submission**

Respondent (2), MSLDC, also submitted that:

- a) As the short term bilateral contracts are based on composite cost, i.e., fixed cost plus variable cost, whether the bilateral transactions shall be the part of merit order stack?

- b) And if it is a part of merit order stack, then up to what extent the transactions should be curtailed?

The above issues were discussed in the MSPC meeting and resolved that; only 20% quantum of the STOA will be a part of merit order stack and Weighted Average System Marginal Price (WASMP). The composite cost will be considered for MOS.

The Commission is hereby requested to consider the above solutions.

- c) While operating MOD principle it is observed that Thermal units on the top of Merit Order Stack gets variation in schedule frequently which is not desirable. In such scenario MOD principal strictly cannot be adhered.
- d) Due to backing down, if the generating company is affected, the Commission may address the issue as it deems just, fit and proper.

## **5. MSEDCL's submission**

**5.1** On 5 September, 2011 Respondent (1), MSEDCL, made its submission on affidavit in the matter vide letter CE/MSPGCL Petition/Backing Down/26832. MSEDCL submitted that the backings down instructions from MSLDC are purely on the basis of system conditions. Therefore, any such instructions from MSLDC should be considered from the system security angle and the financial burden on account of the same, if any, should not be passed on to the ultimate consumers.

**5.2** With reference to the modalities suggested by MSPGCL, MSEDCL submitted as follows:

- a. The capacity declared by MSPGCL may not be the final implemented schedule based on subsequent and real time revision by the generator or MSLDC under state MOD. Real time availability from MSPGCL could be different from both the declared capacity and the implemented schedule.
- b. It has been experienced that although at times, MSPGCL may declares higher availability, the instructions issued by MSLDC considering grid conditions may call for further deviation with respect to the real time generation. Hence, backing down need to be considered with respect to the level of generation at the time, when MSLDC issues instructions.

**5.3** MSEDCL submitted that the above mentioned aspects may kindly be considered by Commission while considering request of MSPGCL for quantifying the loss accruing to it on account of backing-down.

**5.4** MSEDCL submitted that while considering the request of MSPGCL for relaxation of the normative parameter on account of backing down, MSEDCL may be allowed to submit before the Commission the problems it faces on account of inconsistent generation by MSPGCL:

- a) It is observed that though MSPGCL declares its capacity /availability, it does not stick to the generation schedule as per declared capacity even in normal conditions.
- b) This has severe impact on the strategy adopted by MSEDCL to meet the forecasted demand and the load management of MSEDCL, as no planning can be done on the basis of Availability declared by MSPGCL on day ahead basis.

**5.5** MSEDCL submitted details of the Availability and the actual generation by Petitioner for 25 October, 2010, 26 October, 2010, 02 March, 2011 (days selected at random). The variation in actual injection by the Petitioner with reference to the declared Availability in the IBSM scenario and the implemented schedule in the FBSM scenario poses problems for MSEDCL in load management, viz.,

- Uploading load shedding
- Purchase of costlier power from the market
- In the intra-state ABT mechanism, MSEDCL actual generation with reference to the implemented schedule.

**6.** Hearing in the above matter was held on 7 September, 2011.. Shri J.K Srinivisan, ED (Finance), MSPGCL, and Shri Sanjay Sen, Advocate, represented the Petitioner.

**6.1** Shri Sen submitted that the Petitioner is aggrieved financially because of instructions to back down its generation from time to time. MSLDC submitted that backing down instruction is strictly followed in conformity with the State Grid code, IEGC and the provisions in the Scheduling and Despatch Code, so as to ensure quality of electricity and in the interest of safety and security of the power system.

**6.2** The Commission observed that since MSLDC is the system operator, MSLDC has complete jurisdiction for giving appropriate instruction to all the participants. Such being the case, the Commission further observed, that the Petitioner should, in conformity with Section 33(4) of the Electricity Act, 2003 , bring out the details of the disputed specific events and actions of MSLDC which have affected the financial interests of the Petitioner.

**6.3** The Commission directed the Petitioner to submit an affidavit with these details, in line with the provisions of Electricity Act, 2003 and serve a copy of the affidavit on the Respondents.

## **7 MSPGCL's Submission**

**7.1** On 3 October, 2011 vide letter RCD11/18H/L0967 the Petitioner submitted that in the preliminary reply submitted before the Commission, MSLDC has indicated that there are issues involving inter-state short term transaction under the state merit order mechanism, as noted in the MSPC ROP dated 9 May, 2011. MSLDC has further stated that as per the CERC Regulation, short term power cannot be brought under the purview of any instantaneous back-down operations. This position is being contested by the Petitioner. It is not permissible to back-down generators who are supplying power on long term basis to the state grid on account of MSLDC's alleged /purported inability to reschedule power coming from short term open access users. MSLDC has clearly misinterpreted its role and function. Backing down instructions, on account of MOD principles, do not constitute rescheduling short term open access power coming into Maharashtra as envisaged under the CERC's Inter State Open Access Regulations.

**7.2** The Petitioner further submitted that MSLDC, while operating the system, is bound to follow the State Grid Code and not take a commercial view of the transaction falling under short term open access. The loss suffered by the state generator who is supplying power on a long term basis needs to be mitigated if the short term open access power is to be allowed by backing down the units of the Petitioner.

**7.3** The Petitioner submitted that Grid Coordination Committee cannot in any manner be a supplement to the powers available with the Commission under the provisions of the Electricity Act, 2003 and/or the Regulations (State Grid Code) framed there under. A review and analysis of Regulation 5 and 6 of the State Grid Code would demonstrate that the function of the Commission in matters concerning disputes against directions issued by MSLDC has not been delegated to the Grid Co-ordination Committee. The jurisdiction of the Grid Co-ordination Committee is limited to "Review of the State Grid Code once in every 12 months and report upon completion of the said review to the STU. Under Regulation 7, the MSLDC has a mandate to discharge functions assigned to it under the provisions of the Electricity Act 2003 and Regulations, in an independent and unbiased manner.

**7.4** The Petitioner further submitted that in view of the aforesaid, there is no doubt that the case is maintainable and as such and deserves to be admitted. The Commission, after admitting the matter may call for records from the MSLDC and such other parties as it may deem necessary. The Petitioner after examination of record prays for leave to file such additional affidavit/ submissions as may be necessary to assist the Commission to come to a final decision in the matter. It may be necessary in the course of this proceeding to lay down a protocol regarding treatment of short term open access power (intrastate and interstate) for the purpose of Merit Order Dispatch which the MSLDC admits that there is lack of clarity. The Petitioner submitted, the Commission is required to make specific

inquiry on the issue of technical minimum operating parameter of all generating stations. The same has to be recorded formally so that MSLDC does not have unbridled discretion on the issue. The Petitioner submitted that at present, admittedly there is lack of transparency, which MSLDC is claiming on the grounds of lack of clarity. The Commission has to address this issue and pass consequential orders.

## **8. MSLDC reply of 5 November, 2011**

**8.1.** The Respondent (2), MSLDC, in its reply dated 5 November, 2011 submitted that the Petitioner's contention that MSLDC has not acted in a transparent manner while issuing backing-down instructions is denied, as MSPGCL was informed of whatever instruction given by MSLDC and are recorded in the daily system reports. The data regarding backing down has already been furnished to MSPGCL. MSLDC further submitted that the instruction of backing down were given by MSLDC as per the provision of the Act, Regulations and the various Orders passed by the Commission. Respondent (2) submitted that this fact has also been explained in the earlier submission by it.

**8.2** The Respondent (2) submitted that regarding the validation of technical minimum, it is to bring to the Commission's notice that MSPGCL's thermal generating units' technical minimum is considered as 70 % of MCR as per the prevailing practice and the same was being considered for backing-down in the past. The technical minimums of private generators is also provided by the respective companies. However, this issue has been discussed in the MSPC meeting and it was decided that the generating companies shall provide validated technical minimum to MSLDC.

**8.3** The Respondent (2) submitted that as far as JSW and WPCL are concerned, MSLDC has obtained written communication from the concerned companies regarding declaration of technical minimum and as decided in the MSPC meeting dated 9 May, 2011 all generators shall be asked to submit the same duly validated from CPRI. During the instances of backing down MSPGCL units, all other generators were also running at technical minimum, except one unit each of JSW and WPCL, which were under testing and commissioning trial for COD. WPCL was injecting power at zero cost during COD operation, while JSW rate was Rs.1.17/kWh. As per the definition of COD, the plants come under scheduling process only after declaration of COD, as such the plants during testing and commissioning trial run would not be the part of MOS. Hence MSLDC had not shutdown the plants to avoid restarting of entire procedure for 72 hrs for COD.

**8.4.** The Respondent (2) submitted that MSLDC had acted only as per the provisions and accepted regulatory practices.

**8.5** The Respondent(2) submitted that as per the existing Regulations/Commission's Orders on ABT, short term bilateral transactions are not covered under the MOD principle, hence, in a surplus scenario, MSLDC has not curtailed short term bilateral transactions. Moreover, bilateral contracts are with "take or pay" conditions. Hence, the buyer has to take action seeing its commercial implications.

**8.6** The Respondent (2) submitted that it was resolved at the MPSC meeting on 9 May, 2011 that only 20% quantum of the Short Term Open Access power would be a part of the Merit Order Stack and Weighted Average System Marginal Price. A composite cost will be considered for Merit Order Stack, accordingly the implementation has been started from August 2011.

**8.7** The Respondent (2) submitted that as per the CERC Open Access Regulation the downward revision is possible only with two days' advance notice therefore, in real time MSLDC could not curtail the inter-state transactions. Respondent (2) submitted that this issue has also been deliberated in the MSPC meeting and resolved that power purchase from outside state shall be considered as must run and shall not be a part of the Merit Order Stack and the System Marginal Price.

**8.8** The Respondent (2) submitted that During IBSM regime, the distribution licensee was expected to forecast its demand and maintain load and generation balance on the basis of the said demand forecast. MSLDC would modify in real time, the schedules prepared in advance, only in case there was any system constraint or violation of grid code or as per the instruction received from RLDC. However, with FBSM, the blockwise visibility in real time required keeping the load and generation balance continuously.

**8.9.** The Respondent (2) submitted that in reply to para 11 of the petition, that it had taken the decision of backing down under the provisions of the Regulations and Orders issued by the Commission and it had not committed any error in issuing backing-down instructions.

**9. Petitioner's letter addressed to the Commission dated 8 November, 2011 in response to MSLDC's letter dated 5 November, 2011**

The Petitioner, in letter dated 8 November, 2011 submitted that it would like to clarify that the issue raised by MSEDCL (para 3) does not bear any relation to the issue of backing-down that is under consideration in the present case. As schedule and actual generation are dealt with under separate provisions of the grid code and have no relation to the provisions dealing with MOD which are relevant to backing-down.

**10.** Hearing in the matter was held on 11 November, 2011. Shri Sanjay Sen, Advocate, appeared on behalf of the Petitioner. Shri P.B Hote (MSLDC) and Shri A.S Chavan (MSEDCL) appeared on behalf of the Respondents.

**10.1** The Petitioner submitted that it had submitted an additional affidavit on 3 October, 2011 referring to various Sections of the Electricity Act 2003 and Regulations in the State Grid Code in support of its argument for maintainability of the Petition. Further, it had submitted on 11 November, 2011, an additional affidavit dated 9 November, 2011 in support of its Petition. The Petitioner had also sought the permission of the Commission to file an amendment to the main Petition.

**10.2** The Commission observed that the said Petition was maintainable only under Section 33 (4) of the Electricity Act 2003. The Commission admitted the Petition subject to the above amendment being carried out by the Petitioner.

**10.3** The Commission further directed that the committee under Shri S. R. Karkhanis (Regulatory Expert of MERC) be formed and technical consultant Shri Ajit Pandit of ABPS to study the documents submitted by the Petitioner and advise the Commission on the methodology to be adopted to proceed in this matter within 3 weeks.

**11.** Further hearing in the above matter was held on 5 December, 2011. Shri Sanjay Sen, Advocate, appeared on behalf of the Petitioner. Shri Satyajit Pawar (MSEDCL) and Shri P.B Hote (MSLDC) appeared on behalf of the Respondents.

**11.1** The Commission directed MSLDC to ensure that technical minimum for all generating units in the State is declared by the respective generating companies.

**11.2** The Commission directed its office to place an Order on CPRI for assessing technical minimum of the generating stations in the State.

**11.3** The Commission directed MSLDC to file para-wise reply on affidavit, to the submission of the Petitioner. The Commission also directed MSLDC to start with the preparatory work for making Standard Operating Procedures to cover various real time operational situations for the load despatchers on duty, to achieve load-generation balance.

**12.** Further hearing in the above matter was held on 25 January, 2012. Shri Subrat Ratho, MD, represented the Petitioner.

**12.1** The Petitioner stated that it has incurred financial loss due to erroneous instructions given by MSLDC to back down its units while it allowed more expensive generators such as the IPPs to generate at levels higher than their respective technical limits and also, at the same time allowed short term open access (STOA) transactions to continue without restrictions.

**12.2** The Commission observed that in its ABT Order dated 17 May, 2007 in Case No. 42 of 2006 it had directed that

*“...Based on least cost dispatch schedule, the MMSLDC-OD shall notify the Target Dispatch Schedule to generating stations and Target Drawal Schedule to the State Pool Participants. The target dispatch schedules and target drawal schedules shall be determined by undertaking load-generation balancing and adopting MOD principles at reference frequency of 50 Hz”.*

**12.3** The Commission observed that in order to implement the above directive, MSLDC must put in place a robust mechanism based on Standard Operating Procedures and well defined logic to take correct load despat decisions in real time.

**12.4** The Commission directed the parties to file their submissions before the next hearing, with a copy served on each other. The Commission also directed the Petitioner to submit time block-wise generation data pertaining to its petition regarding backing-down of its generating units on instructions from MSLDC.

**12.5** The Commission directed MSLDC, to submit system parameters and generation details of the other power generating units of State Grid and those of Inter State Generating Stations (ISGS) supplying power to the State as well as data pertaining to intra state and inter-state STOA transactions operational during that time block.

**12.6** The Commission directed the Respondent to forthwith post on its website, on a daily basis, details of all important load dispatch instructions given and directives issued to the utilities during the day.

### **13. MSLDC’s submission dated on 30 January, 2011**

**13.1** MSLDC, vide letter No. CELDK/TECH/SO/BDn/ No. 0188 dated 30 January, 2012 submitted the generation data regarding RGPPL and the generating units of the private sector power producers namely M/s JSW, Abhijit, WPCL for dates 23, 28, 30 31 December 2011; 1, 2,3,8,9,10,11,15,16 January 2012; tabulated as follows:

Table: Hourly generation of RGPPL in MW for 0-24 Hrs

Table: Blockwise (1 to 20) station generation data as per MRI for JSW U 2, JSW U3, JSW 4, Total JSW U 2,3,4 , Abhijit WPCL:

**13.2** MSLDC submitted that the status of the IPPs and CPPs is as follows:

M/s JSW is having contracts as below (Capacity:4\*275 MW ex \_bus technical minimum190 MW)

- a. **Unit No .1**-Long term contract with MSEDCL.
- b. **Unit No .2**-Medium term contract with MSEDCL.
- c. **Unit No 3**.Captive use by M/s ISPAT under STOA for 220 MW RTC and balance power as inter-state sale in exchange.
- d. **Unit No.4** –STOA with MSEDCL having corridor booking for 190MW during 00.000 to 00.15 hrs for January 2012.

**13.3** JSW unit 2 was synchronized at 18.25 hrs on 30 December, 2011, the unit has declared its capacity, but this has not been revised in real time with peaking load. The unit has not generated more than the technical minimum during night hours.

**13.4** M/s Abhijit has short term contract (55 MW) with MSEDCL and medium term contract (55 MW) with R-Infra. The contracts of M/s Abhijit are based on plant capacity and no particular unit is contracted with a specific buyer. Hence, ex-bus total injection is used for accounting. There is deviation for M/s Abhijit on 23 & 31 December 2011 against the schedule. Reason for not maintaining the schedule, is already queried from M/s Abhijit. In the event of failure to submit satisfactory explanation, excess injection will be disallowed.

**14.** In compliance with the directions of the Commission in the hearing held on 25 January, 2012, the Petitioner, vide its letter No. RCD12/18H/L0156/No. 02163 dated 14 February, 2012 submitted copies of correspondence between MSLDC & MSPGCL.

**15. Respondent (2), MSLDC's submission dated 9 February, 2012**

**15.1** MSLDC, vide letter no. CE/MMSLDC/EA No. 295 dated 9 February, 2012, and annexures attached thereto, submitted the copies of data and information already submitted, from time to time as follows:

**Annexure I:** A copy of the information sent by email dated 17 May, 2011 by MMSLDC in reply to MSPGCL'S letter dated 12 September, 2011.

**Annexure II:** A copy of the information sent by letter dated 17 November, 2011 by MMSLDC in reply to MSPGCL's letter dated 16 November, 2011

**Annexure III:** A copy of status of the generators for period 20 February, 2011 to 28 February, 2011 as required by MSPGCL as per their Document-1.

**Annexure IV:** A copy of the information sent by email dated 24 January, 2012 by MMSLDC in reply to MSPGCL's email dated 24 January, 2012.

**Annexure V :** A copy of the information sent by MMSLDC dated 30 January, 2012 in reply to MSPGCL's E-Mail dated 24 January 2012 and hearing on 25 January 2012

**Annexure VI:** A copy of the backing down instructions from 23 December, 2011 to 4 February, 2012

**15.2** MSLDC submitted that as directed by the Commission during the hearing on 25 January, 2012, MSLDC has started uploading information on its website on load dispatch instruction regarding backing down, from 10 January, 2012.

**15.3** MSLDC further submitted that as directed by the Commission, it has prepared a preliminary draft on Standard Operating Procedure which is being fine-tuned. MSLDC submitted a copy of the said Standard Operating Procedure applicable to system operators for state grid operation and control, on January 2012 as Annexure VII of the said submission.

**16.** Further hearing in the above matter was held on 15 February, 2012. Shri Subrat Ratho MD, MSPGCL and Shri Sanjay Sen, Advocate appeared on behalf of the Petitioner.

**16.1** The Petitioner reiterated that it has incurred financial loss due to erroneous instructions given by MSLDC to back down its units while allowing more expensive generators such as IPPs to generate at MW levels higher than their respective technical limits and also, at the same time allowed STOA transactions to continue without restrictions. The Petitioner submitted that the Commission should take cognisance of all the data submitted and give favourable consideration to its prayers.

**16.2** The Petitioner made a statement that generating units of RGPPL are located in Maharashtra and bulk of the power generated by its units is consumed within the State. Therefore, the power supply transactions from these units should be treated as intra-state transaction and not inter-state transaction. The scheduling and despatching responsibility for these units should therefore be that of MSLDC.

**16.3** The Commission 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.

**16.4** Regarding the unit-wise power generation data from the newly commissioned thermal generating units in the private sector, MSLDC submitted that the real time energy generation data obtained at MSLDC through ABT metering, prior to 10 January, 2012, was energy data at G<>T interface at those station, and that, the unit-wise generation data was available at MSLDC only on SCADA. On 10 January, 2012 MSLDC submitted that it has installed an additional software module in the ABT metering scheme to integrate and convert the said SCADA data into block-wise energy generation from the respective units.

**16.5** Upon hearing the submissions and arguments as above in the hearing held on 15 February 2012, the Commission directed as follows:

- a) The Commission directed the Respondent (2), MSLDC to obtain block-wise generation data from M/s Wardha Power Co., M/s Abhijit MADC, Nagpur, M/s JSW Energy and other private sector generators, within next two days and make the said data available to the Commission, the Petitioner and the other Respondents. MSLDC is further directed to scrutinise immediately after receipt of the said data and convey its findings to all others as above, in relation to the issues raised by the Petitioner.
- b) The Commission directed the Respondent (2) to put up on its website the technical minimum limits of all the thermal generating units in the State, as per information presently available.
- c) The Commission directed the Respondent(1) and the Respondent (2) to take up the issue with WRLDC regarding assigning to MSLDC, the responsibility of scheduling and despatch control of RGPPL and Tarapur Atomic Power Station.

**17. Prayas Submission on 2 March, 2012**

The consumer representative Prayas submitted to the Commission vide its email message dated 2 March, 2012 as follows:

“ *With likely increase in generation in the state in coming years, increasing short term power purchase and increasing open access transaction ,the issue of Merit Order Dispatch and backing down will be increasingly important .Inefficient MoD and backing down can have significant impact on consumers .Hence we request to MERC to consider instant petition in the context of this evolving scenario and not just the present matter .This also demand improved clarity ,data availability and procedures on the entire issue of MOD ,intra-state ABT mechanism ,IBSM /FBSM and backing down .As such we request the MERC to first 'frame issues to be decided 'in this matter and then ask all parties to submit there say and data in the context of the issues. Such a process will help in arriving at appropriate decisions in the long term interest of the sector and consumers.*

*Below in the indicative (not exhaustive) list of issues that could be considered in the matter and we request the Hon 'ble Commission to frame issue appropriately.*

1. *As per IBSM/FBSM or any other regulation ,does the generator gets any compensation /incentive in case he is asked to back down by MSLDC ( and vice versa ,in case the generator generates more than schedule generation when frequency is below 50 Hz)*

2. *As per IBSM/FBSM or any other regulation, what is penalty /disincentive for generation station if actual generation deviates from schedule generation?*
3. *As per IBSM/FBSM or any other regulation, if there is any penalty /disincentive for DISCOM ,in case DISCOM contracts excessive power and the same leads to backing down of certain stations, especially stations with low variable cost?*
4. *Is there any penalty /disincentive for DISCOM if the DISCOM continues to do load shedding on one hand and does not draw it's scheduled share from generating stations?*
5. *When different units within a station have different variable costs (as per PPA with different procures ) is it not essential to undertake MoD at unit level and is it not essential to have metering arrangements to meet this requirement ?*
6. *What all data needs to be maintained and published on website by MSLDC to ensure complete transparency in operation of IBSM/FBSM and MoD.*
7. *How should 'technical minimum' limit to backing down be defined and shouldn't the same be applicable to all generators?*
8. *How should interstate transaction ,open access transactions and generation from stations within the state ,but supplying part of the generation to other states ,be treated under MoD principals?*
9. *What is the impact of backing down station heat rate and auxiliary consumption? Isn't a part of the impact of less than 100% load condition already factored in the performance norm approved by the commission?*
10. *Has the backing down of MSPGCL plants actually increased as per MSPGCL claims? For this purpose MSPGCL may be asked to submit unit wise /station wise load curve (i.e. generation at different load factors for % of time in the year ,based on hourly generation data ) for last 5 years and actual SHR achieved for last five years .*

**18.** Further hearing in the above matter was held on 2 March, 2012. Shri G. J. Girase, and Shri C. S. Thotwe appeared on behalf of the Petitioner. Shri R. V. Jogdand and Shri Sanjay Agarwal appeared on behalf of MSEDCL (Respondent No. 1) and Shri Ravi Prakash, Advocate, MSLDC and Shri Varun Pathak, Advocate, MSLDC appeared on behalf of MSLDC in the matter.

**18.1** The Commission directed the Respondent (2) to obtain complete 15 minute block-wise generation data of M/s Wardha Power for detailed analysis, as the same had not been provided.

**18.2** The Commission directed the Petitioner as well as the Respondent (2) to independently study data submitted private sector generators, M/s JSW, Abhijit and Wardha Power, and subsequently interact and discuss with each other to detect any specific instances of incorrect backing-down instructions issued by MSLDC, as alleged by the Petitioner.

**18.3** The Commission further directed the Respondent (2) to fine tune the draft SOPs, prepared for implementation of MOD, so as to make the same suitable for use as ready-reference documents for line operations. The Commission directed its office to forthwith issue enquiry to CPRI for carrying out certification work of the technical minimum of thermal power plants.

**19.** Respondent (2) in compliance with the Commission's directive, held a meeting with WRLDC on 21 March, 2012 and vide letter No. MMSLDC/EA/No. 0612 dated 29 March, 2012 submitted the minutes of the meeting as follows:

“ In this connection a joint meeting was held at WRLDC Mumbai on dated 21 March, 2012 regarding above matter .GM ,WRLDC stated that as per definition “ k” of Indian Electricity Grid Code(IEGC )2010,

Quote

**“k) “Central Generating Station “means the generating stations owned by the companies owned or controlled by the Central Government.”**

Unquote

Accordingly RGPPL falls under the category of Central Generating Station (CGS)

As per clause 6.4.2(a) of IEGC-2010

Quote

**“6.4 Demarcation of responsibilities:**

**2.The following generating stations shall come under the respective Regional ISTS control area and hence the respective RLDC shall coordinate the scheduling of the following generating stations:**

**a) Central Generating Stations (excluding stations where full Share is allocated to host state).”**

Unquote

Also as per MOP order dated 29 March, 2010 on allocation of RGPPL, 5% of the generation of RGPPL is allocated to Daman & Diu (2%), Dadra & Nagar Haveli (2%) and Goa (1%). As per the clauses of IEGC 2010 mentioned above, RGPPL being a Central generating station with allocations for DD, DNH & Goa i.e., other than Maharashtra, the control area jurisdiction of RGPPL is shifted from MSLDC to WRLDC, Mumbai, w.e.f 3 October, 2011. ”

**20.** Further hearing in the above matter was held on 3 April, 2012. Shri Sanjay Sen, Advocate, represented the Petitioner (MSPGCL), Shri Varun Pathak Advocate for Respondent (2) and Shri.B. S.Gujarathi, MSLDC (Respondent No 2) appeared in the matter.

**20.1** The Commission took on record the minutes of meeting (MoM) dated 22 March 2012 between the Petitioner and the Respondent (2), and the annexures attached to the submission filed by the Petitioner.

**20.2** The Commission, after viewing the said MoM observed that, the Petitioner and Respondent (2) have jointly scrutinized all the available generation data furnished by various generating companies in the state.

**20.3** The Commission observed that the Merit Order Stack (MOS) is prepared by MSLDC on the basis of the most recent information of variable cost as appearing in the billing data for the cost of power sold/injected into the grid and may not represent the generation cost.

**20.4** The Commission further directed the Petitioner and Respondent (2) to file their presentations made at the hearing on affidavit and also their respective written arguments, to the Commission, within three weeks.

## **21. Submission by the Petitioner**

In compliance of the directive of the Commission, the Petitioner made its submission vide letter No. RCD12/18H/L0408 dated 19 April, 2012, reiterating all its arguments submissions made through various earlier submissions as above.

- **Analysis and views**

**22.** The Commission has heard the Petitioner, Respondent No. 1 and Respondent No. 2 and has scrutinized the written submissions and allied documents submitted by them as well as the submission made by the authorized consumer representatives under Section 94(3) of the EA 2003.

**22.1** Based on the Petition and the prayers put up by the Petitioner, the Commission observes that there are two separate but inter-related issues brought out by the Petitioner.

- a) First, the Petitioner has brought out a grievance that MSLDC has not implemented MOD while discharging its duties on certain occasions in FY 2011, especially between December 2010 and February 2011.,It has on those occasions wrongly ordered the backing-down of the Petitioner's generating units which were capable of operating at higher loads.
- b) The second issue is that the Petitioner intends to establish the volume and value of the business lost and the adverse effect that such back-downs had caused to its performance parameters, and further, it wants the cost of the same to be reimbursed.

In this context, the Commission refers to submission dated 1 March, 2012, made by Prayas, an authorized consumer representative, in the matter. In its submission, Prayas has stated as follows, which are in concurrence with the views of the Commission:

*“With likely increase in generation in the state in the coming years, increasing short term power purchase and increasing open access transactions, the issue of Merit Order Dispatch and backing down will be increasingly important. Inefficient MOD and backing down can have significant impact on consumers. Hence we request the MERC to consider instant petition in the context of this evolving scenario and not just the present matter. This also demands improved clarity, data availability and procedures on the entire issue of MOD, intra-state ABT mechanism, IBSM / FBSM and backing down. As such we request the MERC to first ‘frame issues to be decided’ in this matter and then ask all parties to submit their say and data in the context of these issues. Such a process will help in arriving at appropriate decisions in the long term interest of the sector and consumers. “*

## **22.2 Supporting legislation:**

The Commission notes that the principal legislation in the matter under reference are the provisions under Section 32 and Section 33 of the EA 2003, namely, “Functions of State Load Dispatch Centre” and “Compliance of Directions”, respectively, and the specific section Section 33(4) regarding adjudication of disputes. The Commission, in the above case has examined all aspects of the disputed matter that were brought out by the Petitioner.

### **22.2.1 The Electricity Act 2003**

The Commission observes that the EA 2003 vests the prime responsibility of economic operation of the state power system on SLDC through the following sub sections:

32. (2)

*The State Load Dispatch Centre shall*

.....

.....

*(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.*

33. (1) *The State Load Dispatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State.*

### **22.2.2 National Tariff Policy**

The Commission observes that as the implementation of MOD in its essence is based on comparison of variable part of the Tariffs of various generating companies and power sources it would be relevant to refer to the concerned portion of the National Tariff Policy as below:

The National Tariff Policy states as follows:

#### *6.2 Tariff structuring and associated issues*

*(1) A two-part tariff structure should be adopted for all long term contracts to facilitate Merit Order Dispatch. According to National Electricity Policy, the Availability Based Tariff (ABT) is to be introduced at State level by April 2006. This framework would be extended to generating stations (including grid connected captive plants of capacities as determined by the SERC). The Appropriate Commission may also introduce differential rates of fixed charges for peak and off peak hours for better management of load.*

### **22.2.3 The State Grid Code:**

Based on the provision in the EA 2003, the MERC (State Grid Code) Regulations 2006 was issued by the Commission and was notified on 15 February, 2006. It is also observed that in conformity with the provisions under part E of the State Grid code, scheduling and despatch code was specified by the Commission.

Provisions in the State Grid Code, pertaining to the issue are as follows:

*33 The Scheduling and Dispatch Code shall contain provisions for the following:*

- (i) actions and responsibilities of the State Load Dispatch Centre and Users in preparing and issuing generation/supply schedule on daily basis;*
- (ii) modality of the flow of information between the State Load Dispatch Centre and Users for the purpose of scheduling and dispatch;*
- (iii) modality of the flow of information between the State Load Dispatch Centre and the Transmission Licensees for the purpose of scheduling and dispatch;*
- (iv) modality of the flow of information between the State Load Despatcher Centre and the Regional Load Dispatch Centre for the purpose of scheduling and dispatch:*

*Provided that such provisions shall be consistent with the Scheduling and Dispatch Code included in the Grid Code specified by Central Electricity Regulatory Commission under clause (h) of Section 79 of the Act;*

*(v) procedures of issuing real time dispatch/drawal instructions and rescheduling, if required, to the Users and compliance with the same;*

*(vi) appropriate arrangements for settlement of deviations of actual generation or actual drawal from schedules and mechanism for reactive power pricing:*

*Provided that such settlement shall be carried out in a transparent manner and shall include adequate mechanisms for data verification.*

The Commission observes that the said scheduling and despatch code referred to above in the State Grid Code pertains to modality of interactions between the MSLDC, the generating companies and the transmission-distribution utilities in the state, planning and executions of the operations of the intra-state power grid. The said code was implemented on 1 June, 2007. Subsequently, for a year, the code was widely discussed at various platforms including the MSPC, before it was put up for the Commission's approval.

Based on the above background details, the Commission observes that the said scheduling and despatch code is one of the important tools available to MSLDC for carrying out the operation of the state grid in a safe, secure and economical manner, with the co-operation and involvement of the licensees and generating companies.

The provisions in the above mentioned tools of operation have been drawn from the directions issued by the Commission, in its Order in Case 42 of 2006 issued on 17 May 2007 (hereinafter, the Intrastate ABT Order).

As elaborated above, the Commission observes a harmonious alignment among the provisions in the Act/ Regulations/ Codes cited above and the Orders issued by the Commission, in emphasizing upon the importance of operating the State power system in a secure and the most economical manner.

## **22.3 Responsibilities of MSLDC:**

**22.3.1** Having observed that the main responsibility for secure and economical operation of the State power system rests on MSLDC, with the co-operation and involvement of the generating companies licensees and utilities in the State, it would be natural to find out to what extent the tools available to MSLDC have proven to be adequate and whether the efforts and actions of MSLDC have been adequately supplemented by the other stake holders, viz., the generating companies, as well as the transmission and distribution utilities.

The Commission observes that the finer details pertaining to the methodology to be adopted for MOD have evolved through detailed discussions at various stages and at various platforms. To give an illustration regarding the depth of the discussions related to the issue the Commission cites the excerpts below from the views expressed by the utilities regarding MOD at the hearing held in the Intrastate ABT order in 2006:

*“2.6.1 MSETCL submitted that DISCOM’s should look after their own power purchase and should prepare their respective Merit Order Dispatch (MOD); MSLDC should not be made responsible for the same. Further, MSETCL stated that for State level MOD; trades of energy between various state pool participants will be priced at Ex – Post SMP. Also, in case of change of schedule due to various reasons, MSLDC would be required to prepare new MOD and again SMP will differ, thus predictability of SMP would be difficult for MMSLDC. MSETCL further requested that flexibility to revise schedule should be provided to DISCOMs and Generators during the day.*

.....

*2.6.4 PGCIL submitted that DISCOMs should have full autonomy to select the generator for meeting their demand. The CGS schedule can be varied within 1½ hour notice and similar time gap has to be provided in any mechanism adopted so as to give time to generators and beneficiaries to adjust their requirement for different plants as per their merit order stack.*

***Commission’s Ruling***

*2.6.5 As per the provisions of EA 03, MSLDC shall be responsible for optimal scheduling and dispatch within the State. ...”*

With the above illustration, the Commission, observes that at the initial stage doubts were expressed by the transmission and distribution utilities and other stakeholders over placing the responsibility on MSLDC to implement state wide MOD, and it was suggested that the distribution utilities should have the freedom to select their own generators to meet demand and should implement their own MOD. It is, however, clear that the Commission gave its ruling on the issue and directed that in conformity with the provision of the EA 03, the responsibility of implementing state wise MOD was with the MSLDC.

**22.3.2** After ruling as above, the Commission in the said intra-state ABT Order has gone on to specify the premises for least cost despatch as follows:

***4.7 Premises for Least Cost Despatch***

*(a) The MMSLDC-OD shall be responsible to prepare Least Cost Despatch Schedule after taking into account the requirement of the State as a whole. The process of scheduling and dispatch and role/ responsibility of the MMSLDC-OD shall be in accordance with the procedure outlined under 'Scheduling and Despatch Code' of the State Grid Code, modifications / amendments thereto and any such Order issued by the MERC from time to time. Further, MMSLDC-OD shall determine the target despatch schedules and target drawal schedules by undertaking load-generation balancing and adopting MOD principles at reference frequency of 50 Hz.*

*(b) The least cost despatch planning shall be based on the 'Merit Order Stack' to be adopted by the MMSLDC-OD on day-ahead basis based on the available capacity declaration furnished by the generating stations on a day-ahead basis corresponding to each trading period. During real-time operations, MSLDC may seek to verify available capacity upto 'declared capacity' and issue despatch instructions accordingly.*

*(c) During real-time operations, in case of shortfall in 'availability', MSLDC shall take into account the available contracted capacity to each Distribution Licensee (or State Pool Participant) before issuing drawal/curtailment instructions for respective Distribution licensee. The load curtailment as may be necessary, shall be applicable on all distribution licensees uniformly in proportion to their 'available contracted capacity' and shall be applicable for shortfall beyond their available contracted capacity.*

*(d) The 'Merit Order Stack' shall be based on the energy charge inclusive of fuel cost adjustment charge, if any, of various generating stations. The energy charge of the generating stations shall be based on the heat rate, auxiliary consumption factor, the formula for determination of energy charge as approved by appropriate Commission and the delivered cost of fuel at respective generating stations.*

*(e) The generating stations shall furnish the details of the prevalent fuel charge including, details of the delivered cost of fuel during the month to the MMSLDC-OD from time to time at least once during the month and not later than fifth day of the month to enable the MMSLDC-OD develop centralized 'Merit Order stack' for the State as a whole.*

*(f) For the purpose of Merit Order Stack, the Must run generating stations, constrained generating stations such as hydro stations linked to irrigation shall be ranked earliest in the Merit Order Stack.*

*(g) All generating stations and State Pool Participants (including distribution licensees and TOAUs) would strictly comply with provisions of MERC(State Grid Code) Regulations 2006 including amendments thereof, and shall abide by Scheduling and Despatch*

As seen from the rulings and directions of the Commission as above, the Commission has identified certain key information areas and the key parameters of the entire algorithm. At that time, there may not be complete clarity regarding the procedures to obtain the said information appropriately, however, it was reasonable to assume that the issues arising out of these would get resolved as the utilities and the generating companies would get valuable experience from operating in the specified manner and would enrich the system by ploughing back into the system, the solutions arrived at through sustained interactions. MSPC was considered the main platform for such interactions. As seen from the directions given by the Commission in the intra-state ABT Order, the key activities of the MSPC, *inter alia*, include the following:

*(vi) Provide platform to identify and resolve market participants concerns and to represent common interest of Distribution Licensees at regional level. Keep track of the commercial arrangements between the State Pool Participants.*

**23.** On the basis of the above background, the Commission has scrutinised the submissions of the Petitioner and the Respondents and observes as follows:

**23.1 Load generation balance around reference frequency:**

As mentioned under item least cost dispatch (item 4.7 of Intrastate ABT Order) as reproduced above, the target despatch schedule and the target drawal schedules are to be determined by MSLDC by undertaking load-generation balancing and adopting MOD principles at reference frequency of 50 Hz. The Commission observes that obviously, the actions to be taken in a power deficit situation when the frequency would be below the reference level and those in power surplus situation when the frequency would be above the reference level would be entirely different

Further, the actions for strict implementation of MOD in a small regional power system, as it was at that time, when the scheduling and despatch code was finalized through discussions by MSPC, and the actions to be taken in the present condition when the power system has evolved over a period with high power number (MW per Hz ratio), would also need to undergo similar evolutionary process.

The Commission observes that MSLDC in its submission dated 30 August, 2011 has mentioned that:

“  
(4) *Even through ,the state grid is facing shortage of power in day time ,due to reduction in demand on night hours resulting into under drawl to the extent of 700 to 800 MW associated with high frequency above IEGC band, sometimes backing down of the generation is done to maintain grid discipline and avoid violation as per IEGC 2010.*

*This year due to prolonged monsoon and cold wave November, December & January 2010, night demands were reducing drastically. This has resulted in surplus scenario in night hours.*

***System condition when state generation is required to be backed down:***

- c. Under drawal by state associated with high frequency results in state being in defaulting condition for frequency above 50.20 Hz.*
- d. Under drawal by regional constituter's results in violation of Total transmission Capacity (TTC) on inter – regional links and state is contributing to under drawal .This is the condition when congestion charges are applicable.*

*As per CERC order dated 17<sup>th</sup> March, 2010 clause No.2, congestion charge is Rs 5.45 /-per kWh and is applicable to defaulting constituent and applicable after the period of 30 min after issuance of notice by WRLDC”*

The Commission observes that the narrow band of system operation as mentioned above and penal conditions arising through violations thereof is one such condition, under the present operational scenario, which also has a major influence on implementation of MOD.

The Commission observes that MSLDC in its said submission dated 30 August, 2011 has cited the relevant provisions as per the Intra State ABT Order issued by the Commission. However, the Commission observes that just the guidance in the said Order issued in 2007 may not be by itself adequate to deal with such specific instances and situation arising in state power system of the present. Therefore, the Commission is of the view that MSLDC should have taken urgent steps to discuss such situations at its own level as well as at the appropriate wider platforms such as MSPC and should have included the solutions arrived at through common discussions in the Standard Operating Procedures issued to the engineer-on-duty for his guidance.

The Commission refers to the discussions held between the Petitioner and Respondent (2) as directed by the Commission during the hearing and observes from the minutes of these meetings that such clarificatory meetings on one-to-one basis should have

been held earlier instead of building up the issues on unsure grounds and misunderstandings.

### **23.2 Sudden changes in declared generating capacity:**

The Commission observes that the least cost despatch planning is expected to be carried out by MSLDC, by creating a Merit Order Stack on day ahead basis and to be implemented in consideration of actual capacity available (declared capacity) in real time. However, MSEDCL, in its submission Ref No. CE/PP/MSPGCL Petition/Backing down/26832 dated 5 September, 2011 has stated as follows:

***“Comments of MSEDCL:***

*1. ....*

*20 With reference to the modalities suggested by MSPGCL it is to submit as follows..*

*c. The Declared Capacity by MSPGCL may not be the final implemented schedule based on subsequent and Real time revision by MSPGCL or by MSLDC under state MOD and the Real time availability from MSPGCL could be different from both the Declared Capacity and the Implemented Schedule. This aspect also has to be considered while deciding the case.*

*d. That though MSPGCL declares availability, the instruction issued by the MSLDC considering Grid condition are for further deviation with respect to the real time generation level. Hence backing down in generation need to be considered with respect to the level of generation at the time of instruction of MSLDC.*

*These aspects may kindly be considered by Hon'ble Commission while considering request of MSPGCL for quantifying the loss accruing on it on account of the backing down instruction of MSLDC.*

MSEDCL has also attached several tabulations annexed along with the said submission dated 5 September, 2011 wherein it has provided date wise instances of sudden variation in the actual generating capacity of MSPGCL as against declared capacity, mainly because of forced outages of the generating units or the critical auxiliaries of the units. The Commission observes that MSEDCL through its said submission, intends to show that there have been several occasions when real time declared capacity of the Petitioner's generating units underwent sudden changes due to various problems and the same did not match the capacity declared for day-ahead scheduling.

The Commission also observes that MSLDC, in its submission Ref No CE/MMSLDC/EA /No. 1631 dated 30 August, 2011 has submitted as follows:

**“MSLDC’s submission:** [page 7 of submission]

- a) .....
- b) .....
- c) *While operating MOD principle, it is observed that thermal units on the top of Merit Order Stack get variation in schedule frequently which is not desirable. In such scenario, MOD principle strictly cannot be adhered.”*

The Commission observes that the Petitioner has dealt with the above submission of MSEDCL vide its submission Reference No. RCD11/18H/L1085 dated 8 November, 2011 as follows:

“  
*MSPGCL would like to clarify that the issue raised by MSEDCL above does not bear any relation to the issue of backing down that is under consideration in Case No. 109 of 2011..”*

The Commission observes that although *prima facie* there appears to be no connection between the alleged incorrect backing down instructions issued by MSLDC and the sudden reduction in the declared on line capacity of the Petitioner, at various times, due to forced outages or any other internal reason, the Commission would like to point out that going by the same arguments put up by the Petitioner, such forced backing down and operations at lower capacity would also have the similar adverse impact on performance parameters as claimed by the Petitioner under the matter discussed herein. MSEDCL has submitted that there had been significant impact on MSEDCL due to last minute arrangements for bridging the demand-supply gap. The Commission observes that such costs due to sudden deviations as above, have been passed on to the consumers.

**23.3 Variable cost of power used for making Merit Order Stack:**

The essential input for preparation of the Merit Order Stack (MOS) is the variable cost of power, regarding which generating stations are expected to furnish details of prevalent fuel charge incurred including details of the delivered cost of fuel.

The directives given by the Commission in the ABT order regarding the same are as follows:

- 4.6 Basis for computation of Ex-post imbalance pool price (Settlement price)*  
.....

*(e) The variable cost of each generating station for the purpose of Merit Order Stack and for computation of 'Ex-Post Imbalance Pool Price' shall be the per unit energy charge outlined in the energy bill for the instant calendar month corresponding to the settlement period in respect of each generating station. In case of generating stations having billing cycle spreadover two calendar months, the latest information as available pertaining to previous billing cycle shall be considered for the purposes.*

*(f) The per unit energy charge in the energy bill shall be in accordance with the heat rate, auxiliary consumption factor, the formula for energy charge as approved by the Appropriate Commission and the delivered cost of fuel for that month in respect of each generating station.*

From the submission made by the Petitioner, the Commission observes that there was discrepancy in the MOS submitted by MSLDC for one of the occasions of backing down under dispute here. The Commission observes that the price data used by MSLDC for preparing the said Merit Order Stack (MOS) is at least 3 months old (e.g. February 2011 data used for May 2011). Notwithstanding the time lag, the Commission also observes that the said data merely represents power purchase information from various sources by MSEDCL. For record, the said data should ideally be signed by the personnel operating the Merit Order Despatch on daily basis.

Based on the above, the Commission observes that discipline, methodology and accuracy of preparing Merit Order Stack needs to be improved by using modern means of measurements, communication computations, etc. Although, in consideration to the constraints existing at that time, the Commission, in its Intrastate ABT Order (Case 42 of 2006) had indicated that there would be some time lag for obtaining the applicable variable price of power, based on computation and auditing of procurement costs, corrections thereto, with respect to normative parameters and addition of other fuel related charges, the Commission believes that there are sufficient technological innovations presently available and therefore, all the generating companies, need to proactively help MSLDC by making such data available in short time for its use, so as to improve the said situation.

#### **23.4 “Must Run” and “constrained” stations within the State:**

It was specified that for the purpose of creating the Merit Order Stack (MOS), the must-run generating stations and constrained generating stations such as hydro stations linked to irrigation shall be ranked early in the MOS. Over a period, the must-run stations and their constraint levels were expected to be identified, ascertained, and quantified realistically. 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.

MSLDC, in submission Ref No. CE/MMSLDC/EA/No 2069 dated 5 November, 2011 has submitted as follows:

1. ....
2. *Regarding validation of Technical minimum, it is to bring to your kind notice that MSPGCL thermal generating units “Technical Minimum” is considered as 70% of MCR as per the prevailing practice and same is being considered for backing down in past years. The “Technical Minimum” data of private generators are also provided by the respective companies. However, this issue has been discussed in MSPC meeting and decided that generating companies shall provide the validated technical minimum to MSLDC”*

From the above statement and submissions made during the hearings, 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.

### **23.5 Technical minimum of other power sources:**

The Commission observes that apart from the thermal stations in the State, the distribution utilities (the Discoms) in the State procure a sizable amount of power from inter-state and intra-state sources, inclusive of the power exchanges.

MSLDC submitted that usually the contracts for supply of costly power during the peak hours in the day are continued during the nights when the MW demand of the utilities is lower. These contracts are declared by the said Discoms as must-run contracts citing the commercial clauses of the PPAs signed by them, thereby, prohibiting MSLDC from issuing backing down orders to such sources in spite of their higher cost. The implementation of MOD gets a serious setback.

The Commission has observed that bilateral contracts for such power procurements are entered into by the Discoms, probably without any serious thought being given in advance, to their respective load curves. As the discoms would very well be aware that loads during the off-peak hours (night time) would be much lower than the loads during peak hours, practically for all the Discoms in the state, the Commission is of the view that the prime responsibility of matching the time block wise load procurement pattern with the load curve pattern lies with the individual Discoms themselves.

MSLDC has submitted during the hearing that the gap between the peak demand and off-peak demand in the state, sometimes reaches 2000 MW to 3000 MW, in which case, the constraints imposed by the generators through technical minimum and by the Discoms through financial shackles of the respective PPAs regarding bilateral contracts, make it extremely difficult for MSLDC to plan the backing down.

The Commission observes from the submission Ref No. CE/MSLDC/EA/No. 0014 dated 4 January, 2012 by MSLDC wherein it is reported that the question regarding backing down of STOA transaction has been discussed in the MSPC meeting, in the presence of MSPGCL on 9 May, 2011 as follows:

“IV

A. *As the short term bilateral contracts are based on the composite cost i.e. fixed cost plus variable cost, whether the bilateral transactions shall be part of Merit Order stack ?*

B. *And if part of Merit Order Stack then up to what extent the transactions shall be curtailed?*

*It is resolved that only 20% quantum of the STOA will be a part of Merit Order stack (MOS) and WASMP. The composite cost will be considered as MOS.*

The Commission observes that based in subsequent discussions at the MSPC, MSLDC has issued the following instructions in its Standard Operating Procedures:

*“4.18 Intra state short term open access power can be backed down to its 70% of contract quantum on the basis of MOD. If the open access is already curtailed to 70% then the transactions shall be kept out of MOD”*

The Commission appreciates the fact that efforts have been initiated recently, at the MSPC platform to find solution to the problem. The Commission however observes that further steps in a firm and well defined manner are required to be taken by all the distribution utilities in the State, to ensure that the time and load patterns of power procurement contracts entered into by them, are in alignment with their respective load curves and ensure that the financial terms and conditions of said Power Purchase Agreements (PPAs) do not cause undue constraints for MSLDC in implementation of MOD in the State.

The Commission firmly believes that MSPC is the right platform where all the issues such as above should be discussed so as to get immediate clarifications as required and further, to seek solutions by mutual discussions.

**24. Specific Grievances:**

The specific grievance of the Petitioner is that, backing down instructions were issued to its generating units on several occasions in preference to:

- Power procured through bilateral contracts and Power procured from the power exchanges
- Generation of RGPPL
- Generation of other IPPs, especially JSW and Wardha Power on the alleged occasions.

**a) Bilateral contracts and power exchanges:**

i) The Commission, based on the submissions of Respondent (2) observes that specific rules or operating procedures are not in place regarding backing-down of power being procured through the exchanges and short term bilateral contracts. The Commission observes that there is immediate need to frame simple rules to meet such contingencies, based on the solutions arrived at through further discussions in MSPC meeting, and to include these immediately in the said “operating procedures”

ii) The Commission further observes that MSLDC has submitted that the CERC’s Open Access Regulations, prohibiting MSLDC from revising the power procurement schedule of the inter-state bilateral power supplies less than 2 days in advance, was causing a major constraint in issuing backing-down instructions to such power flow. The Commission observes that the said constraint brought out by MSLDC, needs to be discussed separately.

iii) MSLDC has submitted that on account of these factors, it was not in a position to back-down the power being received from these sources.

**b) RGPPL’s generation:**

i) MSLDC has submitted that RGPPL although is a generating company located in Maharashtra, it is a central sector entity and is under control of the RLDC.

ii) The Commission observes from the minutes of the meeting held between MSLDC and WRLDC on 21 March, 2012 and vide WRLDC's letter No. MMSLDC/EA/No. 0612 dated 29 March, 2012 that RGPPL was under MSLDC's control up to 3 October, 2010.

iii) In MSLDC's letter No. CELDK/TECHSO/T-10 on the Minutes of the meeting between MSLDC Kalwa and MSPGCL on 22 March, 2012, following reasons regarding the said issue have been recorded:

*“SLDC stated that RGPPL has informed that as per letter dated 18 September 2010, the tariff is a single part tariff. Also, there is no mechanism to certify the generation loss on account of backing down and they have to give nomination of gas to RIL one day prio. This issue was referred to MSEDCL by SLDC vide letter No. CELDK/Tech-SO/1714 .....  
.....Further, backing down of RGPPL was carried out as per MSEDCL's LM cell and the same has been submitted to the Hon Commission in MSLDC's reply on affidavit”*

*“On this MSPGCL expressed that propriety of seeking concurrence from MSEDCL should be confirmed by MERC because as per MSPGCL, SLDC should have acted in an independent manner as per ABT order /IEGC”*

iv) The Commission observes that MSLDC is an independent entity, fully empowered to take decisions regarding State-wise MOD. The Commission therefore observes that all the issues pertaining to scheduling and despatching the generation of RGPPL with due regards to the Generating units in the State and other constraints, need to be resolved by MSLDC through comprehensive discussions with MSEDCL and other concerned entities, so as not to allow such constraints to grow out of control.

v) The Commission observes that lack of detailed discussions regarding various operational constraints, resulting in non-issuing of specific operating instructions is the main reason for such chaos in the implementation of State wise MOD.

c) **Generation of private sector power producers in the State:**

i) The Petitioner, in support of its prayer, has cited examples of the occasions when thermal power supply units of the private sector power producers in the state, M/s JSW and M/s Wardha Power were higher up in the MOS as compared to the Petitioner's thermal units and yet these were not issued backing-down instructions in preference to the Petitioners' units on these occasions.

ii) MSLDC, in submission Ref No. CE/MSLDC/EA/No 2069 dated 5 November, 2011 has submitted that

*“During the instances of backing down of MSPGCL units, all other generators were running on technical minimum except one unit each of JSW and WPCL were under testing and commissioning trial for COD. WPCL is injecting power at zero cost during COD operation while JSW rate is 1.17. As per the definition of COD, the plants come under scheduling only after declaration of COD by the plant, as such the plants during testing and commissioning trial run would not be part of MOS. Hence SLDC had not shut down the plants to avoid restarting the entire procedure for 72 hours for COD”*

iii) Based on MSLDC’s submission, the Commission observes that such backing-down instructions to the unit undergoing PG tests would entail either repetition of the tests or other severe commercial implications.

iv) Notwithstanding the details of such implications, the Commission observes that the operations desk of MSLDC is not a place to take such decisions arbitrarily in real-time on whether or not such units are to be backed down, without the help of explicit written down operating procedures. During the hearing, MSLDC explained that the detailed operating instructions to deal with such situations were not in place and these would be developed shortly. The Commission refers to the Standard Operating instructions – January 2012 forwarded by MSLDC to the Commission, and observes that the operational conditions cited therein would be experienced by all the Generating companies in the State, some time or the other and the decisions given by MSLDC at that time would either impact them adversely or favourably, at that time. The Commission therefore observes that these draft instructions / procedures should be subjected to detailed discussions at the common platforms such as MSPC before finalising.

**d) Backing down instances:**

i) In support of its Petition, the Petitioner asked MSLDC to obtain time block-wise generating data from JSW and Wardha Power pertaining to those time blocks to establish that these units were not backed down during the alleged period when the Petitioner’s units were issued backing-down instructions. However, it was revealed that block-wise generation data regarding the said period was not available, as only 8 hour data was being recorded at that time. The exact details of load carried by Wardha Power units on those occasions and whether these being stacked higher in the MOS than the Petitioner’s generating units were backed down or not, cannot be established.

**25. Summary of observations:**

**25.1** The Commission observes that there is no doubt about the fact that the Respondent (2) (i.e. MSLDC), is responsible for operating MOD on a state-wide basis. The Commission observes that the said fact undoubtedly assigns MSLDC a wide range of duties as well as responsibilities and necessitates taking quick decisions in real time.

**25.2** The Commission, based on all the above submissions and discussions, however, observes that MSLDC is not equipped appropriately to discharge its duties of creating the Merit Order Stack (MOS) and implementing state wide Merit Order Dispatch (MOD). The main tools for such operations, viz., the tool to create MOS, the free hand to operate such stack and clear and simple operating procedures to issue instructions for implementing the MOS through issuing Merit Order Dispatch instructions in real-time, are far from adequate.

**25.3** The Commission refers to the minutes of the meeting between MSLDC and MSPGCL on 22 March, 2012 where MSPGCL's queries and the clarifications issued by MSLDC to the alleged instances of not backing down the IPPs/ CPPs when MSPGCL's units were allegedly backed down wrongly, are recorded. The Commission observes that the details furnished by MSLDC and the reasoning thereto, do not support allegations made by the Petitioner regarding preferential treatment given by MSLDC to the private sector plants without valid reasons and also do not indicate that any malafide intentions were behind the backing down instructions issued as above.

**25.4** Detailed analysis regarding WPCL could not be carried out as during the period under reference, 15-minute block data for those units is not available.

**25.5** The Commission is of the view that backing-down instructions have been taken at the operational platform and not as organisational policy decisions. After consideration of all the restraints, constraints discussed during the hearing, unprofessional approach for MOS, lack of understanding regarding exact technical and financial constraints involved, and inability of MSLDC to address the issue using the problem solving tools such as mutual discussions with the stake holders, has resulted in the issues of normal operational nature to be wrapped under blankets of suspicion.

**25.6** The Commission observes that the issues have not arisen out of the blue. It is the misalignment of the methodology for implementing MOD, with the direction and speed of power system reforms which have ultimately resulted in a chaotic condition rather than a disciplined operational system that it is supposed to be. The Commission had identified the Power Committee of the state as the common forum to discuss such issues and find solutions. However, the Commission observes that this platform was perhaps not

supplemented through the formation of subcommittees or with one-to-one discussions to sort out the problems.

**25.7** The Commission observes that that the Petitioner's units were subjected to backing-down instructions as an operational requirement, necessitated for the operation of the intra-state power system in a safe and secure manner. The requirement of operating in the most economic manner was probably not fulfilled on account of several constraints, as the decisions taken by the line managers of MSLDC appear to be *impromptu* decisions without the help of adequate guidelines.

**26. Impact on performance parameters:**

**26.1** The Commission has specified normative performance parameters to all the generating companies which are monitored on annual basis. The Commission takes a view after the annual performance review regarding the achieved performance parameters with respect to the normative or specified parameters. The Commission observes that power deficit situation still prevails in the state and the hours when the power surplus condition exists is only for few hours in a day (in a 24 hours period) and for just a few days in the year, and to some extent due to RTC procurement contracts made by the Discoms with external sources rather than diurnal contracts. The Commission observes that with proper maintenance, scheduling the AOH, COH appropriately, bringing about reduction in forced outages of units and through reduction in failure of critical auxiliaries, improving quality of fuel procurement, it would be possible for the Petitioner to meet or even exceed the targeted performance parameters and levels of efficiency. Instances of backing down for operational reasons in response to system emergencies through revisions in schedules or through oral instructions from MSLDC may occur during the operational period.

**26.2** In light of the above, it would not be reasonable to direct MSLDC to pay compensation to the Petitioner for issuing backing-down instructions. Hence, the Commission is not inclined to grant the prayer for compensation.

With the above, Case 109 of 2011 stands disposed of.

Sd/-  
**(Vijay L. Sonavane)**  
**Member**

Sd/-  
**(V P Raja)**  
**Chairman**