

# **MAHARASHTRA ELECTRICITY REGULATORY COMMISSION**

## **DRAFT GUIDELINES FOR OPERATION OF MERIT ORDER DESPATCH**

The Commission formulated the mechanism for application of the Availability-Based Tariff (ABT) regime within Maharashtra vide its Order dated 17 May, 2007 in Case No. 42 of 2006 ('ABT Order'). Further to the ABT Order, and in discharge of its function under Section 86(1) of the Electricity Act (EA), 2003 of regulating electricity purchase and procurement process of the Distribution Licensees, the Commission now proposes to issue further Guidelines for the operation of Merit Order Despatch (MOD) and is inviting public comments and suggestions on this draft Guidelines for consideration before finalising them.

The following issues have been identified and addressed in this Draft Guidelines:

- 1. Periodicity and Date of preparation of MOD Stack.**
- 2. Basis of preparation of MOD Stack, including the Variable Charge to be considered.**
- 3. Guidelines for operating the Generating Units.**
- 4. Guidelines for Zero Schedule instructions to the Generating Units.**
- 5. Guidelines for Reserve Shut Down (RSD) instructions to the Generating Units.**
- 6. Identification of 'Must Run' Stations, and guidelines for operating Hydro Stations**
- 7. Technical Minimum of Generating Units.**

## **1 PERIODICITY AND DATE OF PREPARATION OF MOD STACK**

- 1.1 The Variable Charge of the immediately preceding month and in case the Variable Charge of immediately preceding month is not available, the latest available Variable Charge needs to be considered and submitted to MSLDC-OD for preparation of the MOD Stack by the 14th day of every month. MSLDC-OD shall prepare the MOD Stack on the 15th day of the month, which would be effective from the 16th day of the month till the 15th of the subsequent month unless revised by MSLDC-OD. MSLDC shall upload the monthly MOD Stack on its website in the format given at Annexure-1 by 15:00 hours on the 15th of every month.
- 1.2 The MOD Stack uploaded on the 15<sup>th</sup> of the month may be subsequently revised by MSLDC-OD in the following circumstances:
- Commencement of supply of power by a Generating Unit under a new arrangement/agreement,
  - Revision of Variable Charges for preparing the MOD Stack due to Tariff Order issued by this Commission for State Generating Stations and the Central Electricity Regulatory Commission (CERC) for Central Generating Stations,
  - Impact of Change in Law in the PPAs as notified by the Distribution Licensee.
- 1.3 The Generating Company shall consider the latest possible actual GCV of Coal for the immediate preceding (n-1) month for furnishing Variable Charges to Distribution Licensees for MOD purposes. However due to uncontrollable factors, in case the GCV of coal of immediately preceding month is not available, the latest available GCV of coal shall be considered.

## **2 BASIS AND PREPARATION OF MOD STACK, INCLUDING VARIABLE CHARGE TO BE CONSIDERED**

- 2.1 It is the Distribution Licensees who must intimate to MSLDC the Variable Charges of all the Generating Stations/Units from which they are procuring power for preparing the MOD Stack.
- 2.2 For Generating Stations/Units whose Tariff is being determined by the Commission under Section 62 of the EA, 2003, the Variable Charge for MOD purposes shall be the Energy Charge (including 'other variable charges', if any) approved by the Commission in the relevant Tariff Orders plus the actual Fuel Surcharge Adjustment (FSA) billed in the immediately preceding (n-1) month. In case the FSA for the preceding month has not been billed by the Generating Company to the Distribution

Licensee, the last FSA billed by it shall be considered by the Distribution Licensee.

- 2.3 No deviations of any kind from the approved Energy Charge should be taken.
- 2.4 For Central Section Generating Stations (CSGS), the Variable Charge for MOD purposes shall be the landed variable cost at the State periphery for the immediately preceding month, including the injection losses.
- 2.5 (a) For the PPAs entered into under Section 63, the Variable Charge for MOD purposes shall be the Energy Charge payable as per the terms of the PPA for the immediately preceding month.  
  
(b) The impact of any Change in Law event affecting the Energy Charge should be submitted by the Generating Company to the Distribution Licensee within one month of its occurrence. The Distribution Licensee should take into account such Change in Law impact in the Variable Charge that it intimates to MSLDC for preparation of the MOD Stack. However, the payments for such Change in Law claims will be made by Distribution Licensee after the approval of the Commission in accordance with the provisions of PPA.  
  
(c) The Change in Law claimed by the Generating Company for its contracted source for a particular month shall be the ceiling claim. The actual impact of Change in Law shall be determined by the Commission through appropriate proceedings. In case the Generating Company has not submitted its claim towards a Change in Law event affecting the Energy Charge within one month of its occurrence, the Generating Company shall not be allowed to raise such claim thereafter.
- 2.6 The following details of the Variable Charge for MOD purposes shall be submitted by the Distribution Licensees to MSLDC:
  - (i) Energy Charge approved by the Commission in the relevant Tariff Order, or the landed Energy Charge at the State periphery as per the terms of the PPA, as the case may be;
  - (ii) FSA billed in the immediately preceding month, or the last available at the time of submitting information to MSLDC;
  - (iii) Impact of Change in Law, if applicable.
- 2.7 The Variable Charges for MOD purposes shall be provided upto 4 decimal places.

### **3 GUIDELINES FOR OPERATING GENERATING UNITS**

- 3.1 MSLDC shall endeavour to attain the load generation balance on any given day by finalising the schedule of the maximum capacity available, starting from the Station/Unit with the lowest Variable Charge in the Merit Order Stack. MSLDC shall also endeavour to finalise the schedule for the Units required to be operated at technical minimum to the least extent possible.
- 3.2 No special treatment shall be given by MSLDC to any particular Generating Unit, and Units shall be backed down or ramped up strictly as per the MOD Stack.
- 3.3 The operation of Generating Units at Technical Minimum shall be strictly guided by the Scheduling and Despatch Code.
- 3.4 The Distribution Licensees should be in continuous consultation with their respective Suppliers and MSLDC, for procuring the highest possible capacity from the Units permitted by the system, rather than scheduling the Units at Technical Minimum.
- 3.5 As a basic principle, MSLDC is required to finalise the despatch schedule based on least-cost principles. In exceptional cases, however, some Units with higher Variable Charges which would not normally be permitted under MOD principles to operate, may be required to operate for various uncontrollable reasons such as transmission constraints in any part of Maharashtra, grid security constraints in importing power to the island city of Mumbai, etc.). MSLDC shall maintain details of such deviations from the MOD principles in the format at Annexure-3 and upload them on its website daily. MSLDC shall also prepare the daily backing down report in the format at Annexure-2 and upload it on its website daily.

### **4 GUIDELINES FOR ‘ZERO SCHEDULE’ FOR GENERATING UNITS**

- 4.1 In case of anticipated generation availability in surplus of anticipated demand, the Distribution Licensees need to optimise their cost of power procurement considering the contracted sources for the period of anticipated surplus.
- 4.2 If the anticipated generation availability is more than the anticipated demand, the Distribution Licensee may consider giving Zero Schedule to some of its contracted sources for the period during which the demand is expected to be lower than the total contracted sources availability put together. This should be a conscious decision of the Distribution Licensee in consultation with MSLDC taking into account the demand supply position and transmission constraints.

- 4.3 Distribution Licensee shall ensure that the Zero Scheduling does not result in all the Units of a Generating Station whose entire installed capacity is tied up with Distribution Licensee in the State of Maharashtra, being shut down. For such stations, one Generating Unit (in case there are more than one) should be operational to meet the Auxiliary Consumption of the Generating Station.
- 4.4 If grid constraints prevent the Zero Scheduling of the Unit with the highest Variable Charge in the MOD Stack, the Unit with the next highest Variable Charge needs to be considered. However, MSLDC should publish the details of such grid constraints on its website, along with the period for which it is likely to persist.
- 4.5 A Reserve Margin equivalent to twice the contracted capacity of the largest Generating Unit of a Power Station, contracted by a Distribution Licensee needs to be maintained, when resorting to Zero Scheduling.
- 4.6 The Distribution Licensee must give the Generating Company 24 hours prior notice of the Zero Scheduling to enable it to take steps for smooth removal of the Unit from the Grid.
- 4.7 In case a particular Unit is, in fact, required to be scheduled during the pre-declared Zero Scheduling period, the Distribution Licensee must intimate the Generating Company at least 72 hours in advance for the Unit(s) to come on bar in cold start.
- 4.8 Zero Scheduling has to be carried out by Distribution Licensee keeping in consideration its roles and obligations under the corresponding PPAs. The Commission clarifies that any additional cost implication in Variable Charges (by means of inferior norms of operation or minimum fuel off-take conditions) that arises on account of Zero Scheduling will not be allowed as pass through while truing up the power procurement cost.
- 4.9 It is not possible to anticipate and provide for every eventuality that may arise in this regard. It should be the intention of the Distribution Licensees and their suppliers that the PPAs between them shall operate with fairness and without detriment to the interest of either Party.

## **5 GUIDELINES FOR INSTRUCTING RESERVE SHUT DOWN (RSD) OF GENERATING UNITS BY MSLDC**

- 5.1 A Reserve Margin equivalent to the contracted capacity of the largest Unit of the Power Station, contracted by the Distribution Licensee needs to be maintained.

- 5.2 The RSD should be implemented for the capacity available in excess of the largest Unit contracted by the Distribution Licensee.
- 5.3 The RSD should be applied to Units with higher Variable Charges in the MOD Stack, subject to grid conditions permitting the same.
- 5.4 MSLDC shall upload details of the RSD of the previous month in the format at Annexure 4 on its website by the 3<sup>rd</sup> of every month.

## **6 'MUST RUN' AND HYDRO GENERATING STATIONS**

- 6.1 The Hydro Generating Stations are primarily intended to meet peaking power requirements. However, depending on the grid requirements, they may be operated during off-peak hours also. With significant generation capacity addition in the State, MSLDC needs to ensure that the intended purpose of Hydro Generating Stations is not defeated and indiscriminate use of Hydro power is avoided.
- 6.2 As the Hydro generation capacity is flexible capacity to meet the needs of real-time operations, MSLDC shall be responsible for operating Hydro Generating Stations on a daily basis considering the month-wise water availability indicated by the Distribution Licensees. The Hydro Generating Stations shall be operated by MSLDC to meet the system requirements and conditions subject to water availability and meeting irrigation and drinking water needs. In order to meet system contingencies, MSLDC may keep Hydro capacity equivalent to the capacity of largest thermal Unit as a spinning reserve. MSLDC to ensure that the hydro capacity to be kept as spinning reserve should be a mix of hydro units from different generating stations of different generating companies (in proportion to contracted capacity of such hydro generating stations) instead of hydro units from single generating station or hydro units of one generating company. Further, MSDLC shall operate the hydro units kept as spinning reserve in consultation with the respective Distribution Licensees, who have entered into contract with respective Generating Company for such hydro units.

## **7 TECHNICAL MINIMUM OF GENERATING UNITS**

- 7.1 The technical minimum for operation in respect of a coal fired/gas fired/multi fuel based thermal generating Unit connected to the STU shall be 55% of its installed capacity.
- 7.2 The Commission shall devise an appropriate methodology, in due course of time, for compensating such thermal generating stations for the loss of operational parameters on account of revised technical minimum level vis-à-vis the existing technical minimum level.

The Commission is in the process of reviewing the Intra State ABT Framework/Deviation Settlement Mechanism for the State of Maharashtra. As and when the revised Intra State ABT Framework/Deviation Settlement Mechanism is finalised and implemented, MOD Guidelines will be appropriately modified.

(Abhijit Deshpande)  
Secretary, MERC

Dated: \_\_\_October 2018

**Annexure 1: State MOD Stack of Variable Charges (VC) for the month of \_\_\_\_\_**

**(Effective from 16..20\_\_ to 15..20\_\_)**

<b>S. No.</b>	<b>Generating Station</b>	<b>Variable Charge (Rs./kWh)</b>
	<b>Above Rs. 4/kWh</b>	
1		
2		
....		
	<b>Rs. 3/kWh to Rs. 4/kWh</b>	
3		
4		
.....		
	<b>Rs. 2/kWh to Rs. 3/kWh</b>	
5		
6		
....		
	<b>Below Rs.2/kWh</b>	
7		
8		
....		

**Notes:**

**Annexure 2: Backing Down report for the date \_\_\_\_\_**

S. No.	Generating Station / Unit	Backing Down period (Time Blocks)		Target Despatch Schedule (MW)		Backing Down quantum (MW)	Remarks
		From	To	Declared Capacity	Despatched Schedule		
1							
....							

**Notes:**

**Annexure 3: Exception Report to Merit Order Despatch for the Date \_\_\_\_\_**

S. No.	Generating Station/Unit	Declared Capacity (MW)	Period to be backed down as per MOD principles (Time Blocks)		Quantum to be backed down as per MOD principles (MW)	Actual Quantum backed down (MW)	Reasons for deviation from MOD principles
			From	To			
1							
....							

**Notes:**

**Annexure 4: Report on Reserve Shut Down for the Month of \_\_\_\_\_**

S. No.	Generating Station (with Number of Units and Unit Capacity)	Total Capacity under Reserve Shut Down (Unit No and Capacity)	RSD Period (Date)		Reasons for RSD	Rank in MOD	Generating Station(s) with higher Variable Charge than the Station/Unit which was given MOD	Reasons for not selecting the Generating Station with higher Variable Charge for RSD
			From	To				

**Notes:**