

**In the matter of**

**Commencement of the commercial arrangement of MERC (Deviation Settlement Mechanism and related matters) Regulations, 2019 and related issues thereof**

**Order**

**Date: 7 October 2021**

1. The MERC (Deviation Settlement Mechanism and related matters) Regulations, 2019 (**DSM Regulations**) were notified on 1 March 2019. In accordance with the first proviso to Regulation 1(2) of these Regulations, the Commission is required to notify the date separately through an Order, for bringing into force the Commercial Arrangements specified under Clause (9) and (10) of these Regulations and the related provisions regarding Deviation Charges and Additional Charge for Deviation. Such date for coming into effect of Commercial Arrangement was to be decided not later than 1 April 2020.
2. Around 12 months' time had been envisaged for commercial implementation which included following key activities:
  - i. Formulation and approval of related Procedures (Scheduling and Dispatch Code, DSM Accounting Procedure and Metering Code)
  - ii. Establishment of Interface Metering, Automatic Meter Reading (**AMR**) facilities and communication infrastructure
  - iii. Development of Software for Deviation Energy Accounting framework
3. In order to facilitate and guide timely implementation, address difficulties, if any, and to monitor progress of several implementation steps related to the DSM Regulations, the Commission constituted a Working Group on 7 January 2019. The Working Group has been monitoring the progress of the DSM Software development, interacting with Maharashtra State Load Despatch Centre (**MSLDC**) and other stakeholders (Buyers and Sellers) for understanding their difficulties or concerns related to implementation of the

DSM Regulations as well as guiding the stakeholders and suggesting to Commission to address their difficulties and facilitating preparedness of stakeholders for smooth shift to DSM regime.

4. Subsequently, on two occasions (on 24 March and 5 June 2020), MSLDC conveyed difficulties in commencement of commercial implementation of DSM Regulations citing mainly non-readiness of DSM software modules and other issues. Accordingly, considering the request of MSLDC and also the then prevailing unforeseen situation of outbreak of COVID 19 pandemic and related difficulties, the Commission, through its Orders dated 28 March and 5 June 2020, deferred the commercial implementation of DSM Regulations till 1 June 2020 and 5 October 2020, respectively.
5. Vide Order dated 28 October 2020, the Commission directed that the date of commencement of commercial implementation of the DSM Regulations would be 28 December 2020. The extension was needed, as during the mock trial run which commenced from 22 June 2020, various issues/errors were noticed in the DSM software modules which required multiple revisions, subsequent testing and re-deployment of the software by IT implementation partner in consultation with MSLDC and the stakeholders.
6. In the meantime, three Petitions (Case Nos. 110 of 2020, 114 of 2020 and 58 of 2020) were filed before the Commission related to implementation of the DSM Regulations wherein Petitioners, citing their respective difficulties, had sought relaxation of certain provisions of the DSM Regulations.
7. Case No. 110 of 2020 was filed by the Co-generation Association of India seeking exemption from the DSM Regulations, inter alia, claiming that although installed capacity of most of the Co-Generation plants was more than 25 MW (threshold limit of applicability for getting covered under the DSM Regulations), due to substantial amount of captive consumption within the plant, exportable capacity of most of the plants was much less than 25 MW. Hence, most of these plants should not fall under the applicability clause of DSM Regulations. The Commission acknowledged the submission of the Petitioner and vide its Order dated 9 November 2020 held that the DSM charges applicability for the Co-Generation plants would be based on exportable capacity of the Generating Unit instead of installed capacity.
8. Case No. 114 of 2020 was filed by the Tata Power Company Ltd.-Distribution (**TPC-D**) citing the difficulties in adhering to the stringent volume limits and requesting the Commission to allow the Additional Deviation Charges as pass through in Annual Revenue Requirement (**ARR**) for the Distribution Licensees. The Commission observed that if the Additional Deviation Charges are allowed as pass through in ARR for the Distribution Licensees, the whole purpose of grid discipline to be followed by the Distribution Licensees as envisaged in DSM Regulations would get defeated. Accordingly, vide its Order dated 29 November 2020, the Commission rejected the Petition.

9. Adani Electricity Mumbai Ltd. (**AEML-D**) had filed its Petition in Case No. 58 of 2020, inter alia, raising the issue related to deviation on account of changeover consumers in the parallel licensee area. Vide its Order dated 9 December 2020, the Commission acknowledged the issue raised by AEML-D and held that the deviation volume limit allowed to supply licensee (i.e., TPC-D) on account of changeover consumers' demand would require to be given to network licensee (i.e., AEML-D). Considering the concerns raised by the Distribution Licensees about the volume limit, the Commission, in the same Order, had also directed the DSM Working Group to examine the impact of Volume Limit during the trial run period and submit its recommendations/ report within fifteen days of the Order.
10. Accordingly, the DSM Working Group had presented its interim report on 21 December 2020 along with detailed analysis of DSM mock trial run bills for the period of 7 December to 13 December 2020 and its recommendations on the implementation of the Regulations. Further based on the subsequent review, on 27 December 2020, the DSM Working Group apprised the Commission about status of preparedness of stakeholders and suggested to extend the mock trial run operation period by another three months i.e., upto 31 March 2021 for commencement of DSM commercial implementation.
11. In the meantime, aggrieved by the Commission's Order dated 9 December 2020 in Case No. 58 of 2020, TPC-D had filed an Appeal before the Hon'ble Appellate Tribunal for Electricity (**ATE**) inter alia, claiming that through the aforesaid Order, the Commission had amended the DSM Regulations which was not permissible under the law. The Hon'ble ATE vide its Daily Order dated 23 December 2020, had directed not to implement DSM Regulations till further orders.
12. Keeping in view the directions as contained in the Order dated 23 December 2020 of the Hon'ble ATE in Appeal No. 5 of 2021 and in view of the recommendations of the DSM Working Group about the preparedness for the DSM implementation as well as to address the concerns of the stakeholders, the Commission vide letter dated 27 December 2020 deferred the commercial implementation of the DSM Regulations till further Orders.
13. During extended mock trial run period, the DSM Working Group continued its regular interactions with MSLDC and other stakeholders, including IT implementation partner to address various issues that cropped up during the implementation. The DSM Working Group also carried out analysis of DSM bills issued during mock trial operation period. The DSM Working Group presented its report to the Commission on 7 April 2021 covering the overview and status of the implementation of the DSM Regulations.
14. Based on recommendations of the DSM Working Group, the Commission passed suo motu Order dated 6 May 2021 by invoking the provision relating to Removal of Difficulty in the process of implementation of DSM Regulations. The Commission in the said Order clarified treatment of certain issues raised by stakeholders under the proposed commercial implementation of the DSM Regulations.

15. Out of the issues clarified, on the key issue regarding volume limit and the Transition arrangement during initial period of DSM implementation, the Commission deemed it appropriate to relax volume limits for buyers and sellers during initial period of DSM Regulations and the smooth transition arrangement from existing Final Balancing Settlement Mechanism (**FBSM**) to DSM Mechanism in a graded manner which was stipulated subject to the outcome of the Appeal pending before the Hon'ble ATE. The relevant extract of the Order dated 6 May 2021, reads as under:

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*26.18 The Commission has noted the suggestions/recommendations of Working Group on the concerns expressed by the stakeholders and also difficulties highlighted by stakeholders for implementation of DSM framework. The Commission has noted the analysis of mock trial run operations/bills and has gone through the recommendations of the DSM Working Group regarding extension of the mock trial run for say, another three months' period subject to outcome of the Appeal No. 5 of 2021 and the need for relaxation during mock trial run as well as during initial period of commercial implementation of these Regulations, termed as Stabilization period by the Working Group.*

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*26.20 .....Hence, the Commission is in agreement with the suggestions of the Working Group that there is a need for additional period for mock trial run operations for smooth transition to DSM framework. **The Commission also accepts the fact that whenever the commercial implementation of the DSM Regulations begins, it needs to ensure that same shall begin with some relaxation or graded manner during the initial period and based on operational reviews, the original conditions as specified under DSM Regulations could be restored.***

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*26.22 Option 3 (Relaxation in Applicable Volume Limits) appears to be a reasonable option to start with, as the **stakeholders will be able to get operational experience of the DSM mechanism in initial period with some relaxed conditions and at the same time, overall objective of introduction of DSM mechanism will not be defeated.** In the initial period of DSM implementation, all the stakeholders would get the confidence of scheduling and managing their deviation within the permissible limit. The stakeholders may be able to improve upon forecasting, scheduling techniques and managing the deviation with relaxed applicable volume limits without commercially suffering under burden of stringent volume limits in the initial period of implementation.*

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26.24 *The DSM Working Group has undertaken deliberation with the stakeholders. Also, with proposed relaxation, it is unlikely that any stakeholders would be adversely affected. Accordingly, the Commission is inclined to exercise its power under Regulation 20 of the DSM Regulations to consider the suggestions of the DSM Working Group to provide relaxation in the Volume Limits (determined on the basis of formulation given in the DSM Regulations) during extended mock trial run period and stabilization period (as and when notified) which would help smooth transition of intra-state entities into DSM framework.*

26.25 *The Commission also notes that TPC-D has filed an Appeal before the Hon'ble ATE challenging the Commission's Order dated 9 December 2020 in Case No. 58 of 2020. TPC-D is aggrieved by the Commission's direction of revision in Volume Limit on account of deviations of the changeover consumers. The Hon'ble ATE vide its Daily Order dated 23 December 2020, has directed not to implement DSM Regulations till further orders. Accordingly, the commercial implementation of the DSM Regulations has been deferred till further Orders. However, considering the fact that the revision in Volume Limits is sub-judice before the Hon'ble ATE, the Commission is of the view that it would be appropriate to approve the Volume Limits for FY 2021-22 based on the formulations provided in the DSM Regulations without any revision in the volume limit for the purpose of extended mock trial run operation and stabilization period. The Commission is of view that the State Entities would get some relief from stringent volume limits due to the relaxed volume limits being considered under the present Order.*

26.26 *In view of the above, the Commission approves following Volume Limits for Buyers during the extended mock trial run operation which would be applicable during the Stabilization Period also, as and when same is notified for commencement.*

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26.28 *Similarly, the Commission also considers the suggestion of DSM Working Group to enhance the volume limit for Sellers during extended mock trial run period and Stabilization Period as and when notified for commencement. Accordingly, the Commission allows an incremental Volume Limit of 20 MW (in addition to stipulated Volume Limit of 30 MW) for Sellers so that, Sellers would be entitled to Volume Limit of 50 MW during extended mock trial run period and for stabilization period during FY 2021-22. The provisions of DSM Regulations and DSM procedure related to Schedule/Volume Limit for Seller with schedule below 40 MW shall remain unchanged.*

26.29 *The Commission hereby approves the applicable conditions with respect to operationalization of extended mock trial run operation and stabilization period of DSM Regulations as under:*

- i. *MSLDC shall update the DSM procedure incorporating incremental volume limit and other conditions stipulated under this Order and shall also modify DSM software and deviation accounting/billing formulation to reflect the incremental volume limit for each state entity, within 10 days from the date of issuance of this Order*
- ii. *The extended Mock trial run period shall commence from 17 May 2021 (Monday) for at least three months (or such further period as may be notified by the Commission)*
- iii. *The Deviation Accounting and DSM bill charges computation during extended mock trial run period shall be based on the revised Approved/Applicable Volume Limits approved by the Commission in this Order.*
- iv. *Depending upon the outcome of the Appeal No. 5 of 2021, subject to the directions of the Hon 'ble ATE therein and also upon review of operational experience during extended mock trial run operations, the Commission shall separately notify the date of commencement of commercial operation of the DSM Regulations with relaxed conditions of Volume Limits (i.e. Stabilisation Period)*
- v. *During Stabilisation Period, the relaxed conditions with incremental volume limit as approved under this Order shall continue. It is clarified that the stabilization period, in first instance, shall be six months from the notified date of commercial operation depending upon the outcome of the Hon'ble ATE Appeal or any other Order passed by the Hon'ble ATE during the pendency of the said matter. The Commission may decide to modify duration of the Stabilisation Period as well as to initiate gradual removal of relaxed conditions (i.e. removal of allowance of incremental volume limit in stages) upon quarterly review.*

27. ***The Commission directs the DSM Working Group to closely monitor the implementation of DSM framework with MSLDC and Stakeholders and guide them during extended mock trial run period of DSM Regulations. The Commission shall undertake review of progress and analysis of extended mock trial run period operations, at least two weeks prior to end of extended mock trial run period to decide further course. The Working Group shall provide its recommendations to the Commission based on analysis of trial run bills issued during the extended mock trial run period, feedback received from***

**the stakeholders and review of operational experience during extended mock trial run operations based on the directions issued in this Order.**

16. Accordingly, after issuance of the aforesaid Order, the Working Group continued its consultations/interactions with the stakeholders with the objective of getting their feedback and inputs for understanding their operational experience and difficulties, if any, during the extended mock trial period and improve preparedness before commencement of stabilization period (i.e. commercial implementation of the DSM Regulations with relaxed volume limit and adopting the dispensation and principles laid down under the aforesaid Order). The Working Group held multiple meetings/interactions with the stakeholders (Buyers and Sellers) and also with the IT implementation partner of MSLDC for DSM software.
17. In the meantime, the Hon'ble ATE vide its Order dated 31 August 2021 has permitted the withdrawal of TPC-D's Appeal on Order in Case No. 58 of 2020 and granted TPC-D liberty to seek the review from the Commission. Accordingly, the Appeal along with the pending Applications were dismissed as withdrawn with liberty to TPC-D to approach the Hon'ble ATE, if still aggrieved by the Order to be passed by the Commission.
18. Subsequently, the DSM Working Group submitted its report on **1 October 2021** along with analysis of extended mock trial run period covering analysis of DSM bills for the period of 17 May 2021 to 6 August 2021 (as extended mock trial run period was stipulated as 17 May 2021 to 15 August 2021 as per Order dated 6 May 2021) and subsequently for the week from 6 September 2021 to 12 September 2021, stakeholders' feedback/concerns, operational difficulties and their redressal by the DSM Working Group, key principles on the issues to be addressed and its recommendations on the implementation of the DSM Regulations to the Commission. The Report also covered the compliance of the directions issued by the Commission in its Order dated 6 May 2021.
19. The key points of the Report submitted by the DSM Working Group are as under:
  - i. **Compliance of Order dated 6 May 2021:** Considering the principles laid down by the Commission on the identified issues, MSLDC updated and revised the relevant provisions of the DSM Software except the directions of the Commission related to treatment of Standby power arrangement for Mumbai utilities. MSLDC presented the difficulties to modify the scheduling module of DSM software to accommodate standby related treatment apart from the risk of the software becoming unstable. As covered under subsequent paragraphs of this Order, treatment, and settlement of transactions for standby related arrangement as approved by the Commission in its Order dated 6 May 2021 shall be provided through separate computations outside the DSM software module. Further, as per the report of the Working Group, the DSM procedure has been correspondingly revised by MSLDC except for the standby treatment issue.

- ii. **Status update on Interface Metering and readiness:** Immediately after notification of DSM Regulations in March 2019, MSETCL had initiated the Metering and the Automatic Meter Reading (AMR) project for all interface locations. Out of total 2977 interface location, 2846 locations were covered under AMR project and the rest 131 locations were considered under non-AMR. Considering the timelines of this project, the Working Group had suggested Plan B for DSM mock trial operation i.e., using existing Secure Make meters and meter data upload using Meter Reading Instrument (MRI) through web-based portal was to be developed by MSLDC. Accordingly, the Plan B was implemented by MSETCL, all other transmission licensees and MSLDC during DSM mock trial operation. With the Plan B, 100% meter data of existing Secure make meters was made available for preparation of DSM bills during Mock Trial Operation.
- iii. **Corrective steps taken for metering errors observed during mock trial run:** Extensive exercise of validation/verification of the meters was undertaken, which had identified around 250 meter locations out of ~ 3000 meters where errors (viz. CT polarity, CT factor error, spike etc.) were noticed and these issues were addressed and necessary modifications in MDAS module were incorporated upon verification of interface metering arrangement at field level.
- iv. **Migration towards Plan A (new interface meters with AMR facility) for commercial commencement of DSM:** Meanwhile, MSETCL completed the installation and commissioning of all interface main and check meters (5954 nos.) and commissioned AMR facility with the requisite communication arrangement. Out of the 2846 locations identified, availability of AMR is ensured for 2460 locations (i.e., 86.43% locations) and manual meter data upload is being done at the rest of the locations. Thus, Plan A project (L&T meters with AMR) is now providing meter data of more than 85% meters (and remaining meter data is made available through MRI) for DSM computation with faster speed and in timely manner. Further validation of new L&T Meter data with Secure Meter data was also undertaken and corrective action taken in the mock trial run DSM bills of 6 September to 12 September 2021 week. Based on this, the Working Group has suggested to shift from Plan B to Plan A during DSM stabilization period for commercial commencement with maintaining Plan B arrangement as back up arrangement.
- v. **Status of registration of State Entities:** Out of 61 identified State Entities, 35 State Entities have been registered under the DSM. Out of pending 26 entities, 18 are the Co-generation plants, 2 entities are the SEZ deemed Distribution Licensees (JNPT is yet to operationalize its Distribution Licence and MADC is in the process of registering under the DSM) and 6 entities are the Sellers. MSLDC has issued



reminder letters to the balance unregistered Co-generation plants and Others asking them to complete the registration process without any further delay.

- vi. **DSM Software readiness for commercial commencement:** The five core modules for DSM Software such as State Entity Registration, Scheduling, Web Portal & Meter Data Management, DSM computation, DSM Fees & Charges have been completed, tested and are operating in a stable manner during extended mock trial period. Out of the rest of the four non-core modules, MIS Module have also been deployed and is operating in a stable manner. As regards the Transmission Loss accounting module, the module has been completed and under further revision based on feedback of stakeholders. The other two modules viz. Reactive Energy Accounting and Big Data Analysis are only partially completed, and the IT implementation partner is yet to undertake necessary modifications as suggested by MSLDC.
- vii. **Analysis of operational performance and DSM bills during extended mock trial run period:** DSM Working Group has undertaken Analysis of DSM bills issued by Western Region Power Committee (**WRPC**) during the period of 12 weeks (17 May to 8 August 2021) and DSM bills issued by MSLDC during mock trial run to the State entities (buyers/sellers). The bills for this period have been issued under the Plan B of Metering i.e., using existing Secure meters with MRI interface.

The analysis of DSM Working Group during this period shows that, the State was marginally payable into the WRPC DSM Pool for 12 weeks taken together. With regard to DSM analysis of intra-state entities, on net basis, the buyers were under-drawing and receivable for all the 12 weeks taken together. It is expected that with improvement in demand forecasting techniques and with Real Time Market (RTM) operations, Buyers would be better placed to manage their deviations.

However, DSM mock trial run bill analysis of Sellers shows that, most of the Sellers had under-injected and significant amount of Deviation Charges (**DSM charges**) and Additional Deviation Charges (**ADSM charges**) were payable by Sellers into the State DSM Pool. One of the major reasons for deviation by sellers would be the scheduling in extended mock trial run period was as per de-centralized mode as envisaged under the DSM Regulations, however, the actual dispatch in real time was as per FBSM mechanism in centralized mode only. Although the deviation was largely on account of the aforesaid fact, the Working Group while comparing schedule under FBSM with actual injection also observed significant deviations during some of the weeks of MSPGCL stations. MSPGCL was asked by the Working Group to take corrective steps to adhere to its schedule which MSPGCL agreed to and MSPGCL initiated steps for improvement in scheduling/deviation performance by identifying a model station (viz. Bhusawal Generating Station).

- viii. **Benefits of relaxed volume limit:** Although the DSM and ADSM Charges computed for buyers and sellers are much more than the WRPC charges payable by the State, with relaxation in volume limit, the number of time blocks within volume limit and operating frequency band (49.85 to 50.05/50.10 Hz) has increased which has benefited the buyers and sellers in terms of the reduction in the ADSM charges.
- ix. **One week Analysis using L&T Meters with AMR facility:** Considering the availability of L&T make meters under AMR project (as per Plan-A), the Working Group has also undertaken analysis of DSM bills issued for one week (6 September to 12 September 2021) using L&T make meters. About 86% meters data was made available through AMR and 14% of meter data was made through MRI.

The analysis of this One (1) week DSM mock trial run bill data shows that, the overall performance of Buyers and Sellers has considerably improved. Deviation of some of the buyers and sellers have reduced significantly.

The Working Group also compared the performance of 1week (6 Sept 2021 to 12 September 2021) of Buyers and Sellers with 12 weeks (17 May 2021 to 8 August 2021) performance. The summary of comparison of performance is provided in the Tables below:

**Table -1: Comparison of 12 weeks performance and 1 week performance of State Entities (Percentage Deviation)**

	<b>Schedule Energy</b>	<b>Actual Energy</b>	<b>Deviation</b>	<b>% Deviation</b>
<b>Buyers Deviation</b>	MU	MU	MU	%
	(a)	(b)	(c) =(b)- (a)	(d)= (c)/(a)
17 May to 8 August 2021 (12 Weeks)	32706	32095	-611	-1.87%
Average of 12 Weeks (11weeks data)	2973	2918	-56	<b>-1.87%</b>
<b>6 Sept to 12 Sept 2021 (1 Week)</b>	2790	2767	-23	<b>-0.83%</b>
<b>Sellers Deviation</b>				
17 May to 8 August 2021 (12 Weeks)	17318	17706	387	2.24%
Average of 12 Weeks (11 weeks data)	1574	1610	35	<b>2.24%</b>
<b>6 Sept to 12 Sept 2021 (1 Week)</b>	1416	1399	-16	<b>-1.15%</b>

**Table -2: Comparison of 12 weeks performance and 1 week performance of State Entities (ADSM Charges in Rs. Lakh)**

	Buyers				Sellers			
	DSM Charges	ADSM Charges	Total DSM	% Contribution of ADSM in Total DSM Charges	DSM Charges	ADSM Charges	Total DSM	% Contribution of ADSM in Total DSM Charges
	Rs. Lakh	Rs. Lakh	Rs. Lakh		Rs. Lakh	Rs. Lakh	Rs. Lakh	
17 May to 8 August 2021 (12 Weeks)	-3747	2276	-1471	<b>-155%</b>	12282	8494	20776	<b>41%</b>
Average of 12 Weeks (11 weeks data)	-341	207	-134	-155%	1117	772	1889	41%
<b>6 Sept to 12 Sept 2021 (1 Week)</b>	84	282	366	<b>77%</b>	1457	747	2205	<b>34%</b>

It is observed from the above Table 1 and 2 that, the Buyers' average percentage deviation is reduced from 1.87% to 0.83% whereas Sellers' average percentage deviation is reduced from 2.24% to 1.15%. Further, the contribution of Additional DSM charges in total DSM charges for Buyers is reduced from 155% (total DSM charges are lesser on account of receivable DSM charges) to 77% whereas for Sellers the contribution of Additional DSM charges in total DSM charges is reduced from 41% to 34%.

Generator's performance was found to be still influenced by current operations under FBSM regime where scheduling of despatch is implemented in centralised manner. However, the analysis indicated that overall performance of the Buyers and Sellers in terms of forecasting, scheduling and deviation management have improved and contribution of ADSM charges in total DSM Charges have significantly reduced compared to earlier weeks.

- x. **Correctness of DSM bills:** As per the comments received from stakeholders (Buyers and Sellers), the computation of DSM charges and ADSM charges were correctly levied as per the DSM Regulations and procedure thereof.
- xi. **Commencement of the commercial implementation of the Regulations:** Considering the preparedness of software and metering infrastructure for DSM and operational experience gained by state entities during extended mock trial run period, the Working Group has suggested that the Commission may consider commencement of commercial implementation of DSM Regulations under relaxed conditions for initial period of six months (i.e., stabilization period) from any time in the month of October 2021.

20. After undertaking analysis of extended mock trial run bills, the DSM Working Group, in subsequent part of its Report, has covered key feedbacks received /issues raised by the stakeholders during the extended mock trial run operations that commenced from 17 May 2021 and provided its suggestions/views to address these issues. These were mainly the software related issues and also for the future improvement for making the software more user friendly. Some of the issues are given below:
- i. **Revision of past time block schedule:** It was pointed out that there were few occasions when the standby power was scheduled by AEML-D, the schedule for past time blocks became zero which resulted into demand curtailment and wrong schedule to Generators. MSLDC has addressed this issue by undertaking required revision in the Scheduling module of DSM software.
  - ii. **Availability of revision reports:** The stakeholders/Buyers had suggested that the revisions report should be made available for all contracted sources. As per the comments received, MSLDC is working with the IT Implementation Partner to implement the feature. Further, some of the reports are available under Administrator Login (MSLDC) and MSLDC agreed to provide access to relevant reports.
  - iii. **Partial Zero scheduling provision for PPA:** As per MSEDCL, it has PPA of 240 MW with SWPGL. Also BEST has PPA of 100 MW with SWPGL. These contracted PPA capacities are supplied by running 3 out of 4 units of 135 MW each of SWPGL. Due to demand/supply scenario, MSEDCL is required to give zero schedule to its partial contracted power. As such there is no provision in DSM software to issue zero schedule for partially contracted quantum of SWPGL. MSEDCL submitted that this provision needs to be incorporated in DSM Procedure/DSM software as MSEDCL and BEST, both are contracting power from SWPGL and MSEDCL needs to provide zero schedule to the extent of contracted capacity tied up by MSEDCL alone. The DSM Working Group observed that Zero scheduling is permissible and allowed for generating unit as a whole under present State Grid Code. It is also observed that PPAs of MSEDCL and BEST with SWPGL do not specify generating unit wise contracted quantum and the same is specified for SWPGCL station as whole. Hence it needs to be examined as to how the request for partial zero schedule provision can be incorporated in DSM software under such circumstances where the unit wise quantum for contracted capacity is not identified under the PPA. Hence, the Working Group recommended that, during stabilization period, it would examine and suggest measures for appropriate incorporation in the DSM software so as to give effect to related regulatory provisions under the Grid Code and to bring parity among the generators on this issue. Further as per BEST's suggestion, a facility for Zero scheduling of Unit-7 (Non APM Gas) for BEST and TPC-D has been developed under test server and the same would be deployed on production server before Go-Live.
  - iv. **Complaint handling system:** MSPGCL, MSEDCL, AEML-D and TPC-G stated that considering the possibility of issues related functioning of the DSM software modules

and to address the issues related to downtime of DSM software, there is a need for 24x7 support and complaint handling system so that that these issues are addressed in a timebound manner. In response, MSLDC clarified that contract with IT Implementation partner does have a provision for 24x7 call center to support the utilities/State entities which would be made available along with Go Live of the DSM Software.

- v. **DSM Software Interruption and market suspension procedure:** AEML-D and TPC-D suggested that an illustration clarifying the detailed procedure for market suspension is needed so as to address the events such as grid disturbances, unavailability of DSM software, natural events such flooding/heavy rainfall etc. The DSM Working Group asked the stakeholders to submit proposed such illustrations of potential scenarios to be considered for market suspension along with possible solutions to take care of such scenarios, which is awaited. MSLDC, upon review of such cases/scenarios/illustrations, would review and incorporate necessary conditions under the DSM procedure revision, as deemed appropriate and submit to the Commission for its approval.
- vi. **Abnormal meter data:** Responding to AEML-D and MSEDCL's feedback about abnormal meter readings, the DSM Working Group clarified that these errors pertain to meter data of existing Secure make meters, and it is envisaged that upon complete migration to new L&T Meters with AMR facility, such identified issues would be addressed. Further, necessary steps have been initiated by MSLDC and MSETCL for rectifying the errors reported.
- vii. **SCADA availability at drawal points of MSEDCL:** MSEDCL stated that absence of SCADA at drawal points is making it difficult to monitor real-time drawal and deviation. The DSM Working Group observed that the Commission in its Order in Case 114 of 2020 had directed STU to prepare concrete and cost-effective plan for implementation of SCADA system for real time data visibility to stakeholders including MSEDCL in a time bound manner and STU has presented the SCADA implementation plan to the Working Group which would take approximately 3 years. The DSM Working Group suggested to STU to initiate necessary actions for implementation upon approval from Competent Authorities. However, the DSM Working Group was also of the view that there will always be difference between actual drawal and SCADA drawal due to various technical issues due to inherent difference in measurement method through meter and measurement through RTU based SCADA system, which is mainly intended for operational purpose. Further, the DSM Working Group suggested that MSEDCL should review its load forecast/scheduling process which is based on Daily System Report (**DSR**) (which is based on Ex-Bus), instead, it should also consider historical statistical analysis around T<>D interface meter data now available under DSM, which forms basis for its deviation accounting.

- viii. **Impact of RE revision:** AEML-D stated that revision in RE Schedule after 23.00 Hrs would make it difficult for buyers to manage load generation balance after 23.00 Hrs as buyers are not permitted to revise their schedules after 23.00 Hrs. The DSM Working Group clarified that as per RE F&S Procedure, no revision in day ahead schedule is allowed to RE generators after 20.00 Hrs.
- ix. **Applicability of scheduling and re-scheduling charges to Distribution Licensees:** MSEDCL and AEML-D suggested that the Distribution Licensees need not pay the scheduling and re-scheduling charges as they are paying monthly Charges to MSLDC under SLDC Fees and Charges Order of the Commission. The DSM Working Group clarified that the issue pertains to SLDC Fees and Charges determined by the Commission under MERC (Multi Year Tariff) Regulations, 2019, which is decided after following public consultation process and hence the Distribution Licensees/Buyers may make their submission in the upcoming Mid Term Review Petitions along with the impact of the applicability of scheduling and re-scheduling charges for Distribution Licensees.
- x. **Block-wise MOD:** AEML-D suggested to prepare time-block wise Merit Order Dispatch (**MOD**) Stack to allow different rates for different time blocks within a day for accommodating contracts having different rates for peak hours and off-peak hours. The DSM Working Group clarified that the principle for operationalization of MOD has been laid out under the MERC (State Grid Code) Regulations, 2020 (notified on 2 September 2020) which have been adopted in the DSM software. Further, benefit and complexities of operationalisation of block-wise MOD need to be studied and if found suitable, might require necessary amendment in Grid Code in future.
- xi. **Revision of Hydro capacity in State Entity Registration:** TPC-D requested MSLDC to revise TPC-G's Hydro capacity from 447 MW to 462 MW (Bhira capacity from 300 MW to 315 MW). The Working Group clarified that TPC-D need to seek approval of the Commission separately, before such revision can be incorporated since as per the PPA approved by the Commission, 447 MW Hydro capacity is tied up with the Distribution Licensees.
- xii. **Variation in drawal of large consumers leads to deviation in Discom drawal:** TPC-D stated that demand variation of three major consumers (viz. Hindustan Petroleum Corporation Ltd., Bharat Petroleum Corporation Ltd. and Rastriya Chemical Fertilizers which are having their own captive generation) having total load of around 100 MW results into deviations of TPC-D.

The Working Group noted that vide its Petition in Case No. 114 of 2020, TPC-D had raised this issue and sought directions to allow levy of proportionate ADSM Charges to consumers having In-Situ Captive generation contract load equal or more than the volume limit of TPC-D for their deviation in their respective schedule. The

Commission vide its Order dated 29 November 2020 had given following directions to ensure discipline on part of the consumers having in-situ captive generation :

- a. Regulation 50.2.4 of the Grid Code Regulations requires the Captive Consumers with in-situ Captive Generating Stations having installed capacity 1 MW and above to submit the net schedule of their consumption to the Distribution Licensees and the Distribution Licensees should ensure compliance of the above Regulation.
- b. The Distribution Licensees shall consider the “schedule submitted for previous day” in case of non-submission of schedule by such consumers.
- c. During planned outage of the in situ generating station, same shall be communicated by them to the concerned Distribution Licensee with 24 hours through an advance notice alongwith the likely period of outage in order to enable the concerned Distribution Licensee to manage its demand and take necessary decision regarding re-scheduling its drawal.
- d. In case of tripping, the intimation should be given to the Distribution Licensee immediately with likely period of the forced outage.

It was also directed that in case of any implementation issue, the Distribution Licensees may approach the Commission separately with the records of such instances for necessary/appropriate directions from the Commission. Thus, TPC-D has already been given liberty to approach the Commission if such a need arises. In the light of the above, the WG observed that TPC-D has the option for approaching the Commission in the next Tariff proceeding with quantification of the impact, if any, on account of demand variations of the large consumers having in situ captive generation which may be considered by the Commission through a public consultation process.

- xiii. **Proportionate Allocation of Auxiliary consumption of generator:** TPC-D stated that in case of zero scheduling, TPC-G’s entire auxiliary consumption is accounted for with TPC-D. However, same should be allocated to BEST also, based on PPA ratio. Since, BEST is also the beneficiary of the TPC-G’s generation, the Working Group based on Removal of Difficulty Order dated 6 May 2021 accepted TPC-D’s suggestions and MSLDC has incorporated necessary revision in DSM software.
- xiv. **Impact of deviation on small Discoms:** The Deemed Distribution Licensees (viz. Mindspace Business Parks Pvt. Ltd., Gigaplex Estate Pvt. Ltd. and KRC Infrastructure and Projects Pvt. Ltd.) stated that being small Distribution Licensees, even a small deviation translates into a large percentage of DSM charges. The Working Group clarified that the Commission, vide its Order dated 6 May 2021, has already allowed the relaxed volume limit (i.e., higher of 12% of schedule or applicable volume limit) which has now been incorporated in the DSM software by MSLDC.

- xv. **Clarity required on schedule considered for DSM computation:** Central Railway requested to consider higher of its contracted generators' availability (inter-state contracted generation) and its demand for DSM computation. The Working Group clarified that the DSM computation is being done correctly and drawal schedule of the buyer is considered for DSM computation and not the availability of its contracted generator.
- xvi. **Incorrect ramp rate:** TPC-G, Rattan India, Dhariwal and AEML-G stated that incorrect ramp rate has been considered in scheduling module. MSLDC clarified that the ramp rate provided by the generators in state entity registration (**SER**) module has been considered in scheduling module while preparation of schedule of generators. However, MSLDC has addressed the issue (viz. ramp rate and revision thereof in SER module based on the supporting OEM documents) in the scheduling module.
- xvii. **Charges for sign change:** MSPGCL stated that charges towards sign change violation are not identifiable in the DSM bills. The Working Group clarified that as per the existing DSM Regulations, there is only an enabling provision for charges towards sign change condition, however, same would be separately notified by the Commission.
- xviii. **DC revision of APML during tripping of units:** Adani Power Maharashtra Ltd. (APML) stated that, as per the existing provision of scheduling software, during tripping of unit, revision of schedule considering ramp down rate in the system is available to APML from 4<sup>th</sup> time block, however, in case of tripping of APML unit, provision is required to make its DC directly to zero in the fourth time block from the instant of tripping. MSLDC clarified in case of tripping of intra-state generator unit other than APML, provision is available in the scheduling software to make its DC directly to zero in the 4<sup>th</sup> time block, counting the time block in which tripping is happened as first one. In such cases the ramp validation bypass logic is implemented by software at the time of DC declaration stage only. However, in case of APML, the DC uploading provision is unit wise through separate .CSV file due to peculiarity of APML's PPAs with MSEDCL. As per existing provisions, any revision in APML DC is done through admin login by MSLDC in consultation with APML. Hence, the suggestion of APML need to be incorporated in the scheduling software through separate logic. Accordingly, MSLDC has initiated the process to address this issue through software modification and same would be incorporated in the Go-live process.
- xix. **Mapping of units:** APML suggested that mapping of APML's units should be done PPA-wise as per the provision of the Grid Code Regulations, however, the same has not been addressed in the DSM software. The Working Group suggested that the issue needs to be resolved bilaterally by APML and MSEDCL as per the provisions of PPA signed by them and the same shall be mapped accordingly into the DSM Software.



- xx. **Change of interface location:** Sai Wardha Power Generation Co. Ltd. (SWPGL) stated that the metering at Warora Substation has been presently considered by MSLDC as interface metering point. SWPGL requested to consider the meters installed at SWPGL's generator end as the interface point. It was clarified to SWPGL that, the transmission line between SWPGL's Generating Station to Warora Substation is a dedicated line. Accordingly, interface point has been correctly considered. For any change, SWPGL needs to approach the STU for converting the dedicated line into an InSTS line. Further, SWPGL was given clarity about the transmission loss considered for scheduling purpose and the loss considered for DSM computation.
- xxi. **Double revision charges:** TPC-G raised the issue that its Unit 7 (APM and Non-APM/RNLG) in spite of being a single Unit, TPC-G is required to pay double revision charges for each revision in schedule of Unit 7. It was clarified that Unit-7 with APM and non-APM are mapped separately as two virtual generators under the DSM software. Scheduling instructions for both virtual generators are separate. Hence, separate re-scheduling charges are being computed for each revision of Unit 7.
- xxii. **Poor communication link at Hydro plants:** It was stated by MSPGCL that most of the hydro plants are remotely located and are facing the issue of poor communication. Hence, MSLDC's instructions for revision of schedule through scheduling software may not be accessible to hydro plant in some cases. Further, since the gas based generating units are also expected to respond quickly to meet grid exigencies, the communication infrastructure for these gas-based stations needs to be robust enough. The Working Group suggested that the communication infrastructure for remotely located hydro stations and gas based stations needs to be strengthened to take care of the issue of poor communication by exploring/developing end to end fiber optic communication (OFC/OPGW) network and also by ensuring redundancy with VSAT or other suitable technologies in time bound manner and till such time, MSLDC may continue with telephonic communication with Hydro and Gas based Stations apart from the communication through scheduling software to ensure that MSLDC's instructions get implemented by the Hydro Generating Stations and Gas based Generating Stations.
- xxiii. **De-Centralised MOD Operation during real time operation:**  
MSLDC stated that as per the provisions of Grid Code Regulations, MSLDC follows de-centralised MOD principles for day ahead load generation balance (LGB). The Regulations also provides that buyers and sellers may request for revision of their schedules during intra-day real time operation. In case of receipt of such request, MOD operation under de-centralized principles needs to be undertaken through software. Further, as per the Regulations, centralized mode of MOD operations is expected in specific and limited events such as grid parameters, transmission line loading, substation loading conditions or State's Volume Limits deviating beyond

permissible operating range where MSLDC's intervention is required to handle these events. For rest of the period during intra-day operations, for maintaining load generation balance, MSLDC requires frequent operation of de-centralised MOD, practically for each time block. MSLDC pointed out that although the Grid Code Regulations entrust the responsibility of real time monitoring, control and load generation balance on MSLDC, the above operational philosophy (de-centralised operation during real time for each time block) has not been explicitly mentioned in the Regulations/Procedure. Hence, MSLDC suggested to incorporate suitable provision in the DSM Procedure to confirm the above operation by MSLDC. The issue was discussed by the Working Group with stakeholders, and they have acknowledged the current operational philosophy being followed by MSLDC. Since the de-centralised operation by MSLDC for each time block helps utilities to use their own resources optimally and also same is in line with the principles of the Grid Code Regulations, the Working Group accepted the suggestions of MSLDC to suitably amend the existing DSM procedure to incorporate aforesaid operational aspect and submit the revised DSM procedure for approval of the Commission.

21. After undertaking the DSM extended mock trial bills analysis and addressing the feedbacks/issues of stakeholders, the DSM Working Group has provided its recommendations on the following issues on principles for consideration of the Commission:
  - i. **Implementation of principles of Standby Power arrangement under DSM framework as laid down under the Order dated 6 May 2021 for DSM Charges computation.**
  - ii. **Treatment of deviation on account of changeover consumers under the DSM regime.**
  - iii. **Issues related to operationalization of the Virtual State Entity (VSE) schedule.**
  - iv. **Sellers are subjected to significant deviation charges in the extended mock trial run period due to real time operation under FBSM schedule and also sellers are not getting actual feel of DSM.**
  - v. **Volume limit of sellers should not be uniform across the sellers and should be linked with plant capacity.**
22. The Commission notes that all the aforesaid issues raised by the stakeholders (Buyers and Sellers) were discussed and deliberated by the Working Group with the stakeholders through their periodic interactions/consultations. Also, by and large, all the aforesaid issues are of clarificatory in nature, the clarification of which would be in the interest of all the stakeholders, and which would facilitate in smooth transition of intra-state entities into DSM framework and implementation of DSM Regulations. **Accordingly, the Commission deems it fit to provide clarifications on these issues raised by the**

stakeholders so that the aforesaid issues are resolved before commencement of commercial implementation of DSM Regulations during stabilisation period.

23. Accordingly, in exercise of powers conferred under Regulation 1 relating to powers to notify commercial arrangement, Regulation 19 of powers relating to removal of difficulty and under Regulation 20 relating to powers to relax under DSM Regulations, the Commission finds it appropriate to direct as follows for adoption during the stabilization period for finalization of mechanism and procedures while addressing the genuine concerns of stakeholders at the time of commencement of commercial operations of DSM Regulations.

24. *Issue No. 1: Implementation of principles of Standby Power arrangement under DSM framework as laid down under the Order dated 6 May 2021 for DSM Charges computation*

*Description of the Issue*

24.1 In case of outage or partial loss of any of the contracted generators of Mumbai Discoms, such licensees can avail stand-by power from MSEDCL. The Commission, in the past, has passed various Orders as regards standby arrangement and the standby charges to be paid by Mumbai Discoms (including Railways) to MSEDCL. As per the Orders of the Commission, the standby power shall be allocated by MSEDCL against that contracted generating source to the Mumbai utilities in the proportion of their share in such contracted generating source, subject to certain conditions.

24.2 TPC-D, BEST and AEML-D stated that scheduling of standby power should be such that it is made available from the same time block of Unit tripping or requisition of power by the Mumbai Distribution Licensees. There could be a lag between the tripping of the Generating Unit and requisition of standby power as certain time (5-10 minutes) is required to understand the event, assessing the quantum of standby power needed and uploading its requirement in software.

24.3 AEML-D raised its concerns regarding the principles laid down under the Order dated 6 May 2021 and stated that if these principles are adopted, Mumbai Generators will not receive any payment during first three time-blocks of the Unit tripping and at the same time, they would be required to pay deviation charges to MSEDCL. Hence, there should not be any sharing of deviation charges by the Mumbai Generators with MSEDCL. Further, as per the Orders passed by the Commission in the past, the standby power should be made available for tripping/revision of all contracted sources including Renewable Energy (RE) sources. Also, revision of standby schedule should be allowed.

24.4 MSEDCL stated that the principles stipulated in the Order dated 6 May 2021 regarding standby power have not been incorporated in DSM Software by MSLDC. Further, standby support is not expected for depletion of RE contracted capacity of Mumbai Distribution Licensees. Mumbai Distribution Licensees are proposing standby power for optimization of their power procurement costs which is not expected from such an arrangement.

MSEDCL would require certain time (5-10 minutes) for giving consent to providing standby support.

***Recommendations of the DSM Working Group***

- 24.5 Vide its Order dated 6 May 2021, the Commission has specified principles for scheduling standby power and its treatment under the DSM regime. However, MSLDC has experienced difficulties in implementation of standby provisions in the existing scheduling software as it requires different treatment (revision in same time block as against revision in 4<sup>th</sup> time block as per the logic developed in line with the DSM Regulations) and deviation computation.
- 24.6 In order to avoid instability of scheduling module of the DSM Software, implementation of the principles laid down under the Order dated 6 May 2021 regarding settlement of energy and deviations for the 1st three time-blocks from activation of standby should be done separately i.e., outside the DSM software.
- 24.7 Other issues relating to triggering event of standby power requisition and conditions thereof as raised by Mumbai Distribution Licensees are principles of standby arrangement which need to be covered under the Standby Agreement. Therefore, the Mumbai Distribution Licensees and MSEDCL need to discuss the issues amongst themselves and enter into formal standby agreement covering all the issues raised by them.
- 24.8 During extended mock trial period, settlement of standby power was not demonstrated and hence it is difficult to take any review, however, based on the experience during stabilization period, treatment of standby power may be revisited/reviewed for DSM computation.

***Commission's Analysis and Ruling***

- 24.9 The Commission notes that vide its Order dated 6 May 2021, the Commission has stipulated the modalities to be adopted for standby power treatment under the DSM. The relevant extract of the Order is given below:

*“In view of the above, the Commission directs MSLDC to consider following revisions in DSM Procedure for clarifying the treatment of Energy Accounting and Deviation Accounting for operationalisation of standby power arrangement between MSEDCL and Mumbai utilities (incl. Railways) under DSM framework:*

- i. In case of scheduling of power under standby arrangement for concerned Mumbai Discom/Buyer, standby power shall become effective from 1<sup>st</sup> time block in which such standby support is requested by Mumbai Discom/Buyer.*
- ii. Upon triggering of standby arrangement, the schedule entitlement of contracted Generators of MSEDCL on bar shall be reduced to the extent of approved standby power and the availability entitlement of concerned Mumbai distribution licensee(s)/Buyer shall be enhanced by the quantum of consented standby power.*

*Provided that, in case the standby power is requested by multiple Mumbai Discoms, the standby power will be scheduled as requested by respective Discoms or in proportion to their respective share in the standby power as specified by the Orders of the Commission from time to time whichever is lower.*

- iii. **Drawal schedule of MSEDCL shall be subject to revision from 1<sup>st</sup> time block counting the time block as a first in which standby power supply is requisitioned by Mumbai Discom.**

*Provided that, if MSEDCL's contracted generators have surplus availability, equivalent additional generation shall be scheduled for MSEDCL under De-Centralised MoD operation, which shall become effective from the 4<sup>th</sup> time block.*

- iv. *The schedule of contracted generator (under outage or partial loss of contracted source as scheduled) by Mumbai Distribution Licensees/Buyer shall be replaced with actual and **the same shall become effective from the immediate 1<sup>st</sup> time block** from which Mumbai Discom has requested for Standby power.*

*Provided that, such contracted generator (under outage or partial loss of contracted source) will share the deviation charges including ADSM charges, if any suffered by MSEDCL for the first, second and third time block due to provisioning of standby power to Mumbai Discoms, on proportionate basis."*

- 24.10 Above principles were laid down to address the issue of double payment by the Mumbai Distribution Licensees (schedule-based payment to the contracted Mumbai generator and the payment towards the standby power to MSEDCL) during the first three-time blocks of the tripping of the Mumbai Generator and when the Mumbai Distribution Licensee seeks immediate standby support in the same time block of tripping.
- 24.11 The Commission notes that the Working Group has presented the concern of DSM software becoming unstable in case the revision is attempted in scheduling logic to incorporate the above principles regarding changeover scheduling. The Commission is of the view that during commercial operation of the DSM Regulations, an unstable software is not desirable as it will lead to incorrect scheduling which may have an adverse financial impact on the stakeholders as also real time operations are likely to suffer. Hence, the recommendation of the Working Group is found to be reasonable to undertake the settlement of energy and deviations for the 1<sup>st</sup> three time-blocks from activation of standby and that it should be done separately i.e., outside the DSM software.
- 24.12 The Commission further, notes that one illustration of such outside settlement was provided by the working group to the concerned stakeholders for their review /comments and MSEDCL, AEML-D, BEST and TPC-D have provided their consents to proceed with such settlement for the first 3 time blocks separately, as proposed under illustration.
- 24.13 In light of the above, MSLDC is directed to undertake the settlement of energy and deviations for the 1<sup>st</sup> three time-blocks from activation of standby, separately i.e., outside

the DSM software by developing separate software utility or module which may be linked with DSM software appropriately in future. MSLDC shall incorporate suitable provisions in the DSM procedure for issuance of such settlement statements/supplemental bills for treatment of standby arrangement for first three-time blocks including periodicity of issuance of such statements/supplemental bills.

24.14 As regards the issue raised by AEML-D that there should not be any sharing of deviation charges by the Mumbai Generators with MSEDCL, the Commission notes that the Working Group has not specifically addressed the contention in its report. However, the Commission is of the view that the *causer pays* principle demands that the entity on account of which the deviation charges have become payable (in present case, the Mumbai Generator because of its tripping) should bear the charges and not the MSEDCL which is supporting the Mumbai Distribution Licensees with the Standby arrangement. If during the process of such support, MSEDCL is required to pay the incremental deviation charges purely on account of such support, the equity demands that Mumbai Generator should compensate MSEDCL for such loss. Hence, the Commission deems it appropriate to direct MSLDC to continue the principles set out in the Commission's Order dated 6 May 2021 and undertake the settlement outside the software as recommended by the Working Group.

25. ***Issue No. 2: Treatment of deviation on account of changeover consumers under the DSM regime***

***Description of the Issue***

25.1 In suburban Mumbai, there exists a Parallel Licensing scenario wherein TPC-D and AEML-D are the parallel distribution licensees operating in the area. Changeover consumers are the consumers connected to one Distribution Licensee but getting supply from the other Distribution Licensee. In Mumbai suburban area, there are around 5.7 Lakh changeover consumers (mainly low end and residential category) which are being supplied by TPC-D through AEML-D's distribution network. Thus, their demand (and therefore deviation) is getting recorded in T<>D interface meters of AEML-D.

25.2 Changeover consumers are predominantly the load end /residential consumers. There are no Special Energy Meters (SEM) installed and hence only monthly consumption is available for these consumers. At present, monthly consumption for these consumers is forecast at the start of the month and based on mutually agreed load profile, 15-minute demand forecast is submitted to MSLDC by TPC-D and AEML-D.

25.3 TPC-D, during interaction with the Working Group, stated that it is ready to revise the demand in real time based on request from AEML-D. However, no post facto corrections in 15-minute schedule should be done. TPC-D suggested various options for load forecasting of changeover consumers and the load forecast that may be used for scheduling power in real time as well as on day ahead. Any revision can be conveyed in 4 time blocks for revision which would automatically affect the schedule of the supplier. Any energy

difference can be settled beyond the DSM mechanism at the average monthly power purchase cost (FAC rate). TPC-D also suggested that an additional Volume Limit of 3 MW may be allowed to AEML-D without reducing TPC-D's volume limit by an equivalent amount.

- 25.4 AEML-D stated that the ruling in Order passed by the Commission in Case No. 58 of 2020 needs to be implemented in DSM software which directed an additional volume limit of 3 MW to AEML-D and reduction in volume limit of TPC-D by 3 MW. AEML-D further stated that the volume limit relaxation allowed by the Commission vide its Order dated 6 May 2021 needs to be revisited as same appears to be on an *ad-hoc* basis.

***Recommendations of the DSM Working Group***

- 25.5 The Commission vide its Order dated 6 May 2021, has allowed additional volume limit of 10 MW to Mumbai Discoms resulting in revised volume limit of 18 MW (from 8 MW) for TPC-D and that of 25 MW (from 15 MW) for AEML-D
- 25.6 Analysis of 12 weeks of DSM bills has confirmed that relaxation of volume limit has benefited all state entities (including TPC-D and AEML-D), resulting in significant reduction in ADSM charges.
- 25.7 It is recommended that the Commission, during stabilization period, may continue with revised volume limit allowed under the Order dated 6 May 2021 and review the requirement of additional volume limit on account of changeover consumers based on the results during stabilization period.

***Commission's Analysis and Ruling***

- 25.8 AEML-D had approached the Commission vide its Petition in Case No. 58 of 2020 raising various issues related to DSM implementation, inter alia, claiming that the deviation on account of changeovers consumers would impact AEML-D. Vide its Order dated 9 December 2020, the Commission allowed the issue raised by AEML-D and held that the volume limit equivalent to the demand of changeover consumers (3 MW) needed to be reduced from the volume limit of TPC-D and needed to be added to volume limit of AEML-D.
- 25.9 TPC-D challenged the aforesaid Order before the Hon'ble ATE in Appeal No. 5 of 2021. The Hon'ble ATE vide its Daily Order dated 23 December 2020 directed not to implement the DSM Regulations pending the disposal of Appeal.
- 25.10 Subsequently, the Hon'ble ATE vide its Order dated 31 August 2021 permitted withdrawal of TPC-D's Appeal with liberty to seek review from the Commission. Accordingly, the Appeal along with the pending Applications were dismissed as withdrawn with liberty to TPC-D to approach the Hon'ble ATE, if still aggrieved by the Order to be passed by the Commission. Thus, practically, as on date, there is no difficulty in implementing the Order in Case No. 58 of 2020.

- 25.11 However, the Commission notes that the Case No. 58 of 2020 had been filed by AEML-D when all the State Entities were subjected to the volume limit computed as per the formula given in the DSM Regulations. The Commission further notes that the issue involved in Appeal before the Hon'ble ATE was the dispute pertaining to providing additional 3 MW volume limit on account of deviation of changeover consumers. As per AEML-D, this was the variation margin on account of changeover consumers' deviation which needed to be reduced from the volume limit of TPC-D and same needed to be allowed to AEML-D on additional basis over and above that computed as per the DSM Regulations. On the contrary, it was the claim of TPC-D that there was no need to do so. Thus, the dispute was pertaining to providing additional 3 MW for either of the Parties.
- 25.12 In this context, it is noteworthy that through its suo motu Order dated 6 May 2021 (which is issued after the Order in Case No. 58 of 2020), the Commission has approved the relaxed volume limits for the extended mock (and also for the stabilization period) for the buyers and the sellers, as a result of which TPC-D and AEML-D both have been allowed an additional volume limit of 10 MW over and above the volume limit that was computed as per the DSM Regulations.
- 25.13 Thus, while the dispute was about reduction of TPC-D's volume limit by 3 MW and allowing this 3 MW additional volume limit to AEML-D on account of deviations of changeover consumers, the Commission is of the opinion that an additional 10 MW (allowed vide the suo motu dated 6 May 2021) for initial period of implementation of the DSM Regulations should address the concerns of the both the parties about the financial implications on them due to stringent volume limit computed earlier as per the DSM Regulations.
- 25.14 Further, while it was the claim of AEML-D in Case No. 58 of 2020, that it needed additional 3 MW to accommodate the deviation on account of changeover consumers, the additional 10 MW allowed by the Commission in its Order dated 6 May 2021 should take care of the impact of the changeover consumers' deviations. Indeed, it is evident from the mock trial bills analysis wherein AEML-D's deviations (which includes changeover consumers' deviations) was within limits of the relaxed volume of 25 MW for most of the time blocks (78% for the week 6 September to 12 September 2021). Thus, adverse financial impact on AEML-D if any, on account of deviation of changeover consumers, though acknowledged by the Commission in its Order in Case No. 58 of 2020, is not seen during the mock trial bills analysis, which may be, on account of the relaxed volume limits allowed by the Commission in its Order dated 6 May 2021.
- 25.15 Hence, the Commission is of the view that the relaxed volume limits allowed by the Commission for all the State Entities (including TPC-D and AEML-D) vide its Order dated 6 May 2021 may be continued for the stabilization period without any revision, subject to review of stabilisation period as explained in subsequent part of this Order.**



26. ***Issue 3:-Issues related to operationalization of the Virtual State Entity schedule***

***Description of the Issue***

- 26.1 MSPGCL and TPC-G stated that they had no clarity on Virtual State Entity (VSE) operations. Rate for settlement of energy transactions on account of VSE operations should at least be variable charges of the respective Generating Unit. Further, the conditions under which VSE will operate, needed to be specified.

***Recommendations of the DSM Working Group***

- 26.2 DSM Working group observed that VSE operations are akin to ancillary operations and would be necessary for MSLDC to ensure reliable and safe grid operations, particularly under circumstances of breach of boundary conditions on sustained basis or as necessary to adhere to directions/instructions issued by WRLDC. MSLDC is empowered to operate VSE under such conditions as specified in DSM Procedure including transmission constraint. During extended mock trial period, there was no case observed for VSE operationalization.
- 26.3 Further, as per the State Grid Code Regulations, spinning reserves provision is expected to be operationalised upon study by MSLDC /Grid Co-ordination Committee. Once spinning reserves provisions are operationalized, VSE operation through operationalising spinning reserve would be necessary.
- 26.4 VSE rate has been specified by the Commission in the Statement of Reasons of the DSM Regulations. Any revision in VSE rate will require to be done through Regulations amendment process upon review of operationalization of stabilization period.

***Commission's Analysis and Ruling***

- 26.5 The Commission notes that during real time operations, MSLDC may require to Ramp Up (Increment)/ Ramp down (Decrement) Generation to maintain the drawal of State within the permissible limits at State Periphery or to comply with Regional Load Dispatch Centre's (**RLDC**) instructions or to adhere to any other condition specified in the Scheduling and Despatch Code or Indian Electricity Grid Code or State Grid Code. As per the provisions of the DSM Regulations and State Grid Code Regulations, MSLDC is required to follow the Centralised MOD principle during such events. However, such action of MSLDC, which is taken in the interest of the grid, should not cause commercial impact on the buyer which has power purchase agreement/arrangement with the said generator. Therefore, while revising the schedule of the generator as per Centralised MOD principle, the corresponding schedules of the contracted beneficiary is not revised and a Virtual State Entity (**VSE**) is created for System by the MSLDC for the purpose of scheduling process which shall act as a counter-party to such schedules of the generators.
- 26.6 The Commission further notes that the Statement of Reasons (SOR) of the DSM Regulations has provided the rates to be considered for VSE. The relevant extract of the SOR reads as under:

*“If SLDC takes any decision of ramping up or brining additional generation or backing down on account of curtailment, such action of SLDC shall lead to revision in schedule. Revision in schedule shall be effective from the 4th time block counting instruction issued by SLDC in the time block as 1st time-block. SLDC shall maintain and publish separate account of such actions initiated by SLDC in the interest of grid operation or in compliance of RLDC instructions in conformity with DSM Regulations of Central Commission. SLDC shall publish monthly report of exchange of power capacity amongst the State Entities resulting on account of such SLDC interventions.*

**The time block wise settlement of such power exchange on account of such actions initiated by SLDC shall be settled at the applicable Deviation rate including Additional Deviation Charges, if any, for the state at the state periphery for the respective time block.”**

- 26.7 Thus, the Commission has already taken a view on the VSE rates in the SOR of the DSM Regulations i.e., at the time of finalization of the DSM Regulations. Further, it is a matter of fact that during the extended mock trial run period, no VSE operation has taken place and hence whether rate discovered under VSE suffices variable cost of generator could not be observed.
- 26.8 In light of the above, it would not be appropriate to take a different view on VSE rate at this point in time and the Commission agrees with the recommendations of the Working Group that upon review of operationalization of stabilization period and based on actual experience of VSE operations, suitable action may be initiated which could be by way of amendment of Regulations, if requirement arises, following due process as laid down.**
27. ***Issue 4:-Sellers are subjected to significant deviation charges in the extended mock trial run period due to real time operation under FBSM schedule and also sellers are not getting actual feel of DSM***
- Description of the Issue***
- 27.1 MSPGCL, APML and Rattan India Power Ltd. stated that deviation is largely (around 70-75%) on account of issue related to difference in FBSM (Centralised)/DSM (De-Centralised) schedule and around 10-20% of the impact is due to ramp rate issue.
- 27.2 TPC-G stated that generators are actually operating under FBSM schedules and therefore there is a need for actual trial of at least 1 week before actual implementation. AEML-G also expressed that during extended mock trial period, there was no real experience of DSM implications/VSE billing as the real time operations were based on FBSM principles.

### ***Recommendations of the DSM Working Group***

- 27.3 The Commission has discussed this issue in detail in its Order dated 6 May 2021 and an additional Volume Limit (from 30 MW to 50 MW) has been allowed for generators to minimize the impact of ADSM charges on generators.
- 27.4 Although liability of deviation charges is largely on account of the issue related to difference in FBSM/DSM schedule (i.e. deviation charges are being computed with reference to the DSM schedule and the generators, in real time, are required to follow the FBSM schedule which is different from the DSM schedule), the analysis of trial run DSM bills indicates that MSPGCL is not following the FBSM schedule also, with 22% deviation with respect to FBSM schedule (e.g. Koradi Unit 8 to Unit 10). Upon being made aware of these observations, MSPGCL stated that it would take necessary steps to minimise the deviations in real time. Subsequently, MSPGCL informed that they have taken necessary measures such as establishment of Generation Control Room, holding internal meetings on daily basis for analyzing reasons for previous day deviations, appointment of Nodal Officers etc.
- 27.5 However, since the generators are being covered under DSM framework for the first time, and they are currently (during extended mock trial run period) not able to operate their generating units as per DSM schedule during real time operation, there is possibility of them exceeding volume limits at multiple instances during initial period of operation.
- 27.6 In view of the above, it is suggested that the Commission may consider to waive off the ADSM charges for sellers during first month (4 weeks) of stabilisation period. Further the DSM WG may review the deviation management practices followed by Sellers and the resultant impact on DSM and ADSM charges during stabilisation period and propose the way forward accordingly.

### ***Commission's Analysis and Ruling***

- 27.7 It is a fact that the significant impact of generators under the extended mock trial run period in terms of high deviations charges is on account of the issues related to difference in FBSM (Centralised)/DSM (De-Centralised) schedule. However, the generators need to follow the schedule which they are required to follow in real time, i.e., Centralised schedule under the FBSM regime and the Decentralized schedule under the DSM regime. If high deviation charges are on account of generators' own operational mismatch issues, they cannot adequately attribute deviation on account of the DSM mechanism.
- 27.8 As regards the issue of absence of real time feel or real time experience of DSM as raised by the generators, the Commission, vide its Order dated 6 May 2021, has deemed it appropriate to commence the DSM Regulations in staged or graded manner and allowed relaxed volume limit of 50 MW as against 30 MW specified under the DSM Regulations.
- 27.9 However, the Commission is in agreement with the Working Group that since the generators are (during extended mock trial run period) not able to operate their generating

units (mainly high MOD stack generating units) as per DSM (Decentralised) schedule during real time operation, there is possibility of them exceeding volume limits at multiple instances during initial period of operation of such generating units.

**27.10 Hence, the Commission accepts recommendations of the Working Group for allowing an additional relaxation of waiver of ADSM charges for a limited period of initial four weeks of stabilisation period to the Sellers. MSLDC shall continue to compute ADSM charges for the Sellers during this period, however this ADSM charges shall not be levied to Sellers for this period. Further, in case the difficulty arises in meeting the liability towards WRPC charges, MSLDC may consider recovery of the shortfall from all State Entities including the Sellers, as per the principles laid down under the DSM Regulations. Further, the DSM WG may review the deviation management practices followed by Sellers and the resultant impact on DSM and ADSM charges during stabilisation period and propose the way forward accordingly.**

28. *Issue 5:-Volume limit of Sellers should not be uniform across the sellers and should be linked with plant capacity*

*Description of the Issue*

28.1 The generators, particularly MSPGCL, suggested that the volume limit for sellers should be in slabs based on installed capacity of station, instead of it being uniform across all generators irrespective of plant capacity. They suggested that volume limit of 50 MW may be considered for the installed capacity upto 500 MW, 75 MW for the generating station between 500 and 1000 MW installed capacity and 100 MW for station with capacity exceeding 1000 MW.

*Recommendations of the DSM Working Group*

28.2 The analysis of DSM mock trial run period indicates that with diverse capacity range, (i.e., MSPGCL's Nasik (630 MW), Koradi (1980 MW) and Bhusawal (1000 MW)) MSPGCL Stations have managed their deviation within permissible volume limit of 50 MW.

28.3 Further, the Commission has already discussed this issue while finalizing the DSM Regulations and also in the removal of difficulty Order dated 6 May 2021. The Commission may continue with existing volume limits and may decide on different volume limits based on plant capacity after analyzing the results of stabilization period.

*Commission's Analysis and Ruling*

28.4 The Commission notes that the generators' deviations under extended mock trial run period are largely influenced by current operations under FBSM regime, i.e. difference in FBSM/DSM schedule issue. Most of the generators have stated that around 70-75% of the DSM impact during mock trial run is attributed to FBSM/DSM schedule issue and 10-20% of the impact during mock trial run due to ramp rate.

- 28.5 The Commission notes that after commencement of stabilization period, the issue of difference in FBSM/DSM schedule will no longer survive and the impact of DSM Regulations on the generators could be monitored in correct and more authentic manner during the stabilization period.
- 28.6 **The Commission also notes the observations made by the Working Group that with diverse capacity range, (i.e., MSPGCL's Nasik (630 MW), Koradi (1980 MW) and Bhusawal (1000 MW)), MSPGCL Stations have managed their deviation within permissible volume limit of 50 MW.**
- 28.7 The Commission also notes that, the volume limits provided by the Central Commission, are not linked with the installed capacity of thermal plants. The volume limit of 150MW is provided to all the Sellers uniformly.
- 28.8 Further, the volume limit suggested by the generators (i.e., volume limit of 50 MW for the installed capacity upto 500 MW, 75 MW for the generating station between 500 and 1000 MW installed capacity and 100 MW for station with capacity exceeding 1000 MW), prima facie, appears to be impractical as the State as a whole has a limited volume limit of 250 MW as per the Regulations notified by the Central Commission.
- 28.9 **That being the case, it would be appropriate to accept the recommendations of the Working Group to continue with existing volume limits for the Sellers and a fresh view on deciding the volume limits linked to plant capacity could be taken after analyzing the results or review of stabilization period.**
29. After dealing with the recommendations of the DSM Working Group on the aforesaid issues of principles, the Commission now deals with the key recommendation of the Working Group about commencement of the commercial arrangement of the DSM Regulations through Stabilization Period.
30. The Commission notes that the Order dated 6 May 2021 required the Working Group to provide its recommendations to the Commission based on analysis of DSM trial run bills issued during the extended mock trial run period, feedback received from the stakeholders and review of operational experience during extended mock trial run operations of DSM.
31. In this context, it is relevant to examine the report submitted by the Working Group. The Working Group, in its report has stated that:
- i. As per directions of the Commission in its Order dated 6 May 2021, MSLDC has made appropriate changes in the DSM software for relaxed volume limits and the DSM extended mock trial operation was commenced from 17 May 2021.
  - ii. Further, the Working Group and MSLDC informed the changes carried out in the DSM Software to all stakeholders and suggested to them to monitor the operational parameters, various aspects of scheduling processes, analysis of DSM mock trial run bills issued by MSLDC after 17 May 2021 and provide their feedback along with key issues /suggestions etc. if any for further improvement.

- iii. The mock trial bills analysis made by the Working Group during extended mock trial period (17 May to 8 August 2021 with Secure Meter data) were discussed with the stakeholders for their suggestions/comments. During discussions, the Working Group suggested measures to the stakeholders for further improvement on case to case basis.
- iv. As mentioned **at para. 20 above**, various issues like revision of schedule of past time blocks, clarity on the schedule considered for deviation computation, demand curtailment, partial zero scheduling for contracted generator etc. were discussed with stakeholders and clarifications were provided to them. Also, revisions have been made in the DSM software, as and when thought to be appropriate.
- v. In addition, considering the readiness of new L&T meters with AMR facility as per Plan-A (around 86% of meter data being received through AMR and balance through MRI), the Working Group also analyzed the DSM mock trial run Bills for 1 week (6 September to 12 September 2021) to ensure the preparedness of newly installed L&T meters with AMR and planning for smooth migration from existing Secure meters to L&T meters during stabilization period of DSM implementation.
- vi. Analysis of mock trial run bills for the period 6 September to 12 September 2021, indicate that migration from Plan-B to Plan-A (L&T meters with AMR) is possible. With migration to L&T meters, the issues observed in existing Secure make meters like sudden spikes, absence of data, abnormal data etc. are expected to reduce considerably.
- vii. All stakeholders have confirmed that computations of DSM bills issued by MSLDC during mock trial run period through DSM software were in order.
- viii. Demand- Forecasting and scheduling process of Buyers and Sellers (mainly MSPGCL) have improved significantly over a period during trial run operation.
- ix. Relaxed volume limit allowed in the Order dated 6 May 2021 has facilitated all stakeholders to manage their deviations with relaxed volume limit and reduce their ADSM charges during this mock trial run period.
- x. The issue related to difference in FBSM/DSM schedule and associated significant deviation impact on the generators may not be there during the stabilization period and it is expected that there will be substantial reduction in ADSM Charges payable for Sellers, with improvement in their deviation management practices. Further, to address the difficulty of generators for non-experience or real time feel of DSM regime (De-centralised schedule) and smooth transition of generators into DSM regime, the Commission may consider allowing relaxation of ADSM charges for 4 weeks during the period of Stabilization.



**A] Initial stabilization period of six months (11 October 2021 to 10 April 2022):**

As mentioned in the Order dated 6 May 2021, during stabilization period, the relaxed conditions with incremental volume limit as approved under that Order shall continue. The stabilization period, in first instance, shall be of six months. **However, the Commission may decide to modify duration of the stabilization period as well as to initiate gradual removal of relaxed conditions (i.e., removal of allowance of incremental volume limit in stages) upon periodic review and input from the Working Group.**

**B] Scheduled energy charges payment for generators:**

The existing provisions relating to payment of Energy Charges based on actual generation under the MERC (Multi Year Tariff) Regulations (**MYT Regulations**) 2015 and the FBSM under relevant Orders of the Commission shall be continued till **10 October 2021** and the payment of Energy Charges and other provisions based on scheduled generation under MYT Regulations 2019 and also for the generators covered under Section 63 of the Electricity Act 2003 as per the PPA provisions, shall be applicable with effect from **11 October, 2021.**

**C] Revision in DSM Procedure:**

The Commission notes that, as per the provision of the MERC DSM regulations, MSLDC had submitted the DSM Procedure for approval of the Commission and the Commission had approved the same on 11 November 2019. The Commission vide Order dated 6<sup>th</sup> May 2021, had directed MSLDC to submit the updated DSM Procedure for approval of the Commission considering the directives of the Commission in the 6 May 2021 Order.

The Commission notes that, MSLDC has updated the DSM Procedure except some of the provisions like standby arrangement, deviation treatment to Change over consumers etc. Since the Commission has provided additional clarifications /directives in the present Order, the Commission directs MSLDC to submit the updated DSM Procedure incorporating all the directives /clarifications vide 6<sup>th</sup> May 2021 Order and present Order and submit for approval of the Commission within one (1) month from the date of this Order. MSLDC shall also modify DSM software and deviation accounting/billing formulation as may be required. For commencement of the stabilization period, the principles laid down in this Order and also in the Order dated 6 May 2021 shall be adopted.

**D] Maharashtra State Power Committee:**

The Commission notes that, as per the provisions of DSM regulations and DSM procedure thereof, the MSLDC has constituted the Maharashtra State Power Committee (**MSPC**) for



governance of DSM mechanism operating within state. The DSM Regulations has specified the following functions of MSPC:

*“17. Governance Structure:*

*.....*

*(B) The Maharashtra State Power Committee shall : (i) Co-ordinate and facilitate intra-state energy exchange for ensuring optimal utilisation of resources.*

*(ii) Monitor compliance of these Regulations by the State Entities and submit annual compliance report in the prescribed format within thirty days from close of financial year.*

*(iii) Guide the SLDC for modification of procedure(s) to address the implementation difficulties, if any.*

*(iv) Provide necessary support and advice to the Commission for suitable modifications/issuance of operating procedures, practice directions, and amendment to the provisions of this Regulations, as may be necessary upon due regulatory process.”*

The MSPC constituted under the DSM Regulations shall commence its functioning in terms of the aforesaid functions stipulated under the DSM Regulations and Procedure along with commencement of stabilisation period of DSM.

#### **E] Volume limit approval for new State Entities:**

The Commission vide its Order dated 6 May 2021 has approved relaxed volume limits for Buyers and Sellers during the extended mock trial run operation and Stabilization Period of DSM implementation.

While approving relaxed Volume Limits for Buyers having peak demand upto 100MW, the Commission has approved the Volume Limit as higher of 12% of schedule or the minimum volume limit specified under the DSM Regulations for extended mock trial period and the Stabilisation Period.

Further with regard to volume limit for new Buyer /State Entity to be added in the DSM framework, the Commission has clarified as below:

*“26.27 Further, as regards future addition of Buyer (State Entity), **the Applicable Volume Limit for such new Buyer/State Entity shall be guided by the principles outlined under DSM Regulations read along with conditions stipulated under this Order.** Upon registration of such new Buyer/State Entity, MSLDC shall submit revised computation of Volume Limits as per principles stipulated under this Order and shall seek prior approval of the Commission for incorporation of such new*

*Buyer/State Entity for the purpose of Deviation Accounting and DSM bill generation.”*

Further the Commission clarifies that, in case of registration of new Buyer as state entity, MSLDC shall consider the peak demand in MW of the Buyer for Volume Limit computation which it would submit at the time of registration. Further, MSLDC shall be guided by the principles outlined under DSM Regulations read along with conditions stipulated in the Order dated 6<sup>th</sup> May 2021 and under this Order.

**F] Payment Security Mechanism:**

MSLDC shall ensure the payment security mechanism either through a Letter of Credit or through a Corpus Mechanism. Further, MSLDC shall maintain separate accounts for the DSM/ADSM received and the Corpus received from the State Entities.

35. **Having ruled on the principle issues at para. 23 to para. 28 of this Order, the Commission notes that during initial phase of DSM implementation through Stabilization Period, there is always a possibility that new issues may crop up. Accordingly, the Working Group is directed to continue its interaction with the stakeholders during the further implementation of the DSM Regulations. The stakeholders may raise their respective difficulties/issues along with the actual data, other supporting detail and corresponding financial impact faced by them. The Working Group shall endeavor to find a solution which would be in line with the Regulations and in interest of all stakeholders for recommending such solution to the Commission during review to be undertaken in future.**
36. **Further, the Commission directs the DSM Working Group to closely monitor the implementation of DSM framework with MSLDC and Stakeholders and guide them during stabilization period of DSM Regulations. The Commission shall undertake review of progress and analysis of stabilization period operations to decide further course. The Working Group shall provide its recommendations to the Commission based on analysis of DSM bills issued during the stabilization period, feedback received from the stakeholders and review of their performance during stabilization period and such report shall be submitted by 15 March 2022.**

**Sd/-  
(Mukesh Khullar)  
Member**

**Sd/-  
(I. M. Bohari)  
Member**

**Sd/-  
(Sanjay Kumar)  
Chairperson**

  
(Abhijit Deshpande)  
Secretary

